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MINUTES

—OF THE—

THIRTY-SECOND ANNUAL SESSION

—OF THE—

MEDICAL SOCIETY OF NORTH CAROLINA.

FIRST DAY—MORNING SESSION.

DURHAM, N. C., May 19, 1885.

The Medical Society of North Carolina met in annual session in Stokes' Hall, pursuant to the resolution of adjournment at the last meeting, Dr. W. C. McDuffie, the President in the chair.

The Convention was called to order by the chairman of the Committee of Arrangements.

The opening prayer was offered by Rev. W. S. Davis, of the M. E. Church.

Dr. A. G. Carr, chairman of the Local Committee of Arrangements, introduced to the Convention Mr. James S. Manning, whose address of welcome on behalf of the people of Durham was listened to with appreciative enthusiasm. The following is a copy of the address;

Mr. President and gentlemen of the State Medical Society:—It is my pleasure to welcome you to the town of Durham in the name of our corporation and our people. We are sensible, gentlemen, that you confer upon us distinction by holding your annual Convention here. We honor the purpose of your Society. The people of the State have regard for your efforts and bless you for the work you have accomplished. Your Society has already received the praise of popular approval. It has already received the sanction and protection of the strong arm ofthe law, and recently its effectiveness has been increased by legislative enactment. * * * Your field of labor is large—

coextensive with the pain and sufferings of humanity. Your purposes are commendable—to raise the standard of professional labor in the State, and to inspire the spirit of careful inquiry and communication in those subtle and mysterious things which ever aid in producing new pains and disease. Your duty is nobly to guard the life and health of our people from the trifling of men who seek to impose upon us the pleading of ignorance and fatal mistake.

Your profession, gentlemen, deserves well the merit of being regarded one of the three learned professions. I have always considered if there be one profession more than another that requires greater zeal, more skill, more unselfish devotion, it is the profession of medicine. The human organ with which it has to deal is so sensitive, so delicate, so complicated, its derangements so considerable, its idiosyncrasies so enormous, so concealed from the observation of man, that the greatest discrimination, the profoundest labor is required to determine the nature of the disease that is preying upon the life of its victim. Such being your purpose, we cannot but respect you. We know that the pessimistic philosopher may scorn, may undervalue you in his estimation, he may scorn the effort to lengthen the span of the human life, still the care of human suffering, the desire to protect life and health, will drown the scorn of his stagnant, unprogressive philosophy.

We bid you welcome to our town. We delight to extend to you the cordial invitation of our hospitality, and we wish during this Convention that your labors may produce to you the most satisfactory results. While you are here we wish you a pleasant visit. It will be our pride and our fondest pleasure to point out to you those industries that the thrift, and enterprise and energy of our people have established, and that have extended the reputation and name of Durham to wherever the foot of civilized man treads the earth.

Then, gentlemen, I bid you welcome to the town of Durham in the name of its corporation and its people.

President McDuffie appropriately acknowledged on behalf of the Society the hospitable invitation of the citizens of Durham, and returned thanks for the same.

Secretary Murphy called the roll of the Society and the following members responded :

Drs. J. B. Jones, R. B. Haywood, James B. Dunn, S. S. Satchwell, A. B. Pierce, H. W. Faison, J. J. Summerell, George A. Foote,

Eugene Grissom, R. L. Payne, F. M. Rountree, Charles J. O'Hagan, J. W. Jones, John K. Ruffin, William R. Wood, Thomas F. Wood, G. G. Smith, H. T. Bahnson, R. F. Lewis, Willis Alston, W. J. H. Bellamy, George F. Lucas, W. T. Ennett, G. Gillett Thomas, Francis Duffy, A. G. Carr, J. M. Hadley, P. L. Murphy, Joseph Graham, A. A. Hill, L. J. Picöt, W. J. Cooke, W. H. Whitehead, W. C. McDuffie, A. V. Budd, George W. Long, R. H. Lewis, L. H. Hill, W. P. Mallett, J. R. McClelland, R. J. Noble, William H. H. Cobb, I. Wellington Faison, Hubert Haywood, C. E. Bradsher, W. P. Beall, N. McJohnston, J. T. Sledge, John Chapel Walton, Julian M. Baker, Thomas E. Anderson, J. McQ. Stansill, J L. Nicholson, C. M. Poole, George H. West, Thomas Hill, J. M. Eyle, J. A. Reagan, R. S. Baynes, S. H. Lyle, J. Anderson, Thos. M. Jordan, W. L. Hilliard, T. A. Crowell, R. L. Payne, W. D. Hilliard, W. L. Reagan, H. B. Weaver, John H. Williams J. R. Irwin, J. T. Strickland, J. B. Gunter, R. S. Young, C. F. Anderson, W. W. Faison, Isaac M. Taylor, William H. Bobbitt, B. L. Long, W. C. Whitfield, W. J. Jones, James A. Burroughs, John W. Long, J. H. Cook, G. T. Sikes, William B. Pritchard, John B. Beckwith, E. T. White, G. W. Purefoy, B. F. McMillan, J. E. Grimslye.

The President then announced the following committees :

Committee on Credentials—A. G. Carr, W. H. H. Cobb, H. B. Weaver.

Committee on Finance—Thomas Hill, R. F. Lewis, Jos. Graham.

Dr. Thomas F. Wood introduced the following resolution :

Whereas, It is desirable to make the requirements of membership in the Medical Society of North Carolina accord with the law enacted by the General Assembly of 1885, therefore be it

Resolved, That the following persons are eligible to membership in the Medical Society of North Carolina :

1st. All physicians in good standing who are graduates of regular medical colleges prior to January 1st, 1880.

2d. All physicians who began the practice of medicine previous to April 5th, 1859, and who produce testimonials of good standing and skill sufficient to satisfy the Committee on Credentials of this Society.

Secretary Murphy read communications from Dr. W. O. McDowell, chairman of Section on Materia Medica, regretting his inability to to be present ; also from Dr. G. S. Floyd, chairman of Section on Diseases of Children, to the same effect.

On motion of Dr. G. G. Thomas, Dr. Charles T. Peckham,

Surgeon United States Marine Hospital at Wilmington, North Carolina, was invited to a seat in the Convention, and to participate in the deliberations of the Society.

Dr. Peckham very gracefully acknowledged the courtesy of the Society.

Dr. Cobb, on behalf of the Committee on Credentials, made a partial report, recommending as eligible to membership in the Society the following gentlemen :

F. J. Cooper, Hives ; C. W. Sawyer, Elizabeth City ; B. W. Hathaway, Edenton ; W. E. Powell, Castalia ; J. B. Carr, Old Sparta ; J. P. Smallwood, Lewiston ; R. A. Whitaker, Trenton ; E. S. Ashe, Wadesboro ; H. Willis, Summerfield ; J. H. Baird, Briggsville ; J. C. Whiteside, Morganton ; J. E. Ragen, Alexander ; J. Brank, Weaverville ; L. M. Archey, Concord ; C. E. Adams, Gastonia ; P. J. Kluttz, Gold Hill ; W. H. Wilson, Dallas ; Samuel D. Booth, Oxford ; Patrick Booth, Knap of Reeds ; F. W. Hughes, Newbern ; J. B. Powers, Wake Forest.

Dr. Thomas F. Wood moved that the address of the President be made the first order of business for the afternoon session after "Unfinished Business."

On motion of Dr. Murphy, the Society adjourned till 3 P. M.

FIRST DAY—AFTERNOON SESSION.

The Society was called to order at 3 o'clock.

The President asked for the supplemental report of the Committee on Credentials.

Dr. Carr made his report, as follows : S. B. Dew, S. L. Montgomery, J. S. Bell, J. A. Wise, J. C. Perry, A. C. Jordan, J. M. Faison.

Dr. Payne moved that a committee be appointed to award the prize and also to select a case of surgical instruments suitable for the award.

The President appointed on that committee Drs. T. F. Wood, H. T. Bahnson and T. E. Anderson.

The President announced as the next business in order the reports of chairmen of sections. By reason of the absence of chairmen of sections the reports were deferred.

Dr. Bahnson moved that the roll be called again.

Dr. Weaver moved that the order of business be the President's address.

The President then delivered his address, for which see Appendix.

Dr. Carr moved that the thanks of the Society be returned to the President for his address, and that a committee be appointed to carry out his suggestions therein contained.

The chair appointed on said committee Drs. Thomas F. Wood, W. H. Whitehead and H. B. Weaver.

The chairman of the Section on Materia Medica being absent, Dr. Thomas Hill read a communication on the "Hæmostatic Properties of Rag Weed"—*Ambrosia artimisiæfolia.* (See Appendix.)

By request of the President the Secretary read out the chairmen of sections.

The Secretary moved that the annual essay of Dr. Haywood be made the special order for to-morrow morning at 10 o'clock.

Dr. Payne moved that the reading of the "Prize Essay" be made the special order for to-morrow afternoon at 3 o'clock.

On motion, the Society then adjourned till Wednesday at 10 o'clock A. M.

SECOND DAY—MORNING SESSION.

WEDNESDAY, May 21, 1885.

The Society was called to order at 10 o'clock, pursuant to adjournment.

Dr. Carr reported from the Committee on Credentials as follows:

W. T. Spreill, T. R. Haring, J. B. H. Knight, W. H. Harrell, James MacHays, James F. McKay, George C. Cope, D. B. Reinhardt, Annie Lowrie Alexander, J. T. Nicholson, J. A. Hodges, D. N. Dalton.

Secretary Murphy read a communication from Dr. Hines regretting his inability, on account of sickness, to be present at the Convention.

On motion of Dr. J. W. Jones, the President declared the Society adjourned out of respect to the memory of Mrs. W. T. Blackwell.

Dr. Wood, through Dr. Bahnson, requested that the prize essay be handed to the committee as soon as possible.

The Society then adjourned in accordance with the motion.

After a recess of fifteen minutes, the Society was called to order by the President, who announced as the order of business the reading of Dr. Haywood's essay.

Dr. Haywood then entertained the attentive audience for an hour with an interesting and instructive address on "Micrococcus in Relation to Disease."

Dr. Bahnson moved that a vote of thanks be tendered Dr. Haywood for the pains and labor he has manifested in the preparation of his essay, and that it be referred to the Committee on Publication, which was adopted.

Secretary Murphy moved a suspension of business for ten minutes for members absent at roll call to come forward and report their presence to the Secretary.

Dr. A. G. Carr made an additional report of the Committee on Credentials as follows:

M. L. Hicks, Henry Sloan, J. H. Burton, D. B. Jordan, W. P. Kennedy and T. C. Bullock.

The President announced that the hour of conjoint session with the Board of Health had arrived—12 M.

Dr. Jones, President of the Board of Health, took his seat, and the conjoint meeting was called to order.

Dr. Jones then delivered his address. (See Appendix.)

Dr. Thomas F. Wood, Secretary of the Board of Health, read the resolutions of Drs. Satchwell and Jones introduced at the last meeting. He spoke of the arduous labor brought to bear by the committees appointed in accordance with these resolutions in getting passed by the last General Assembly a law so much in advance of anything we have heretofore had, that those who have been interested in the Board feel that they have made a great start in the business which had heretofore been entrusted to them without the money to carry it out. He then read by sections the amended act relating to the Board of Health, and referred particularly to those portions concerning the payment of the superintendents, and the fines imposed on superintendents for not making reports to the Secretary of the State Boarp He stated that a member of the Board was sent to the Convention of the State Boards of Health held in Washington, D. C., last December, where it was agreed to ask the Legislatures of our States to give a contingent appropriation for making prompt application of money for

the isolation of any case of pestilential disease which may appear, particularly in the case of cholera. He read the minutes of the meeting of reorganization held at Raleigh, March 20–21. He said that the National Board of Health has offered to supply this Board, immediately on the appearance of any case of cholera or other infectious disease, with means for the isolation of the same—they to be reimbursed when this Board shall have obtained the money from the State treasury- He proposed that each county be called out in its alphabetical order, and if there be a Superintendent of Health or other representative of that county present, he be asked to give the standing of his county in relation to the Board of Health. About twenty-five counties were called in this manner with responses from some eight or ten.

Dr. Wood said if the superintendents cannot get full statistical reports from the county physicians, a report from the superintendents as to the condition of the jails, poor-houses and other public institutions, is very desirable.

On motion of Dr. Satchwell, the Society then adjourned till 2½ o'clock P. M.

SECOND DAY—AFTERNOON SESSION.

Dr. Jones, President of the Board of Health, called the Society to order at 2½ o'clock.

By suggestion of Dr. Wood it was decided to correspond with the different counties instead of calling them in the meeting.

Dr. Wood said he was requested by the Board of Examiners to announce that there was a clerical error whereby one person reported as having passed his examination had failed to pass, and asked that their report be returned to them. So ordered by the President.

President Jones announced as next in order the election of two members to fill vacancies on the State Board of Health.

Dr. Thomas F. Wood was nominated to fill one of the vacancies, and on motion the Secretary was instructed to cast the vote of the Society for Dr. Wood.

The following nominations were then made to fill the remaining vacancy: By Dr. R. H. Lewis, Dr. W. D. Hilliard, of Asheville; seconded by Dr. Ennett. By Dr. Baker, Dr. Summerell, of Salisbury. By Dr. Ruffin, Dr. Satchwell, of Rocky Point.

By request of Dr. Satchwell Dr. Ruffin withdrew his nomination.

Dr. Summerell withdrew in favor of Dr. Hilliard.

On motion of Dr. Lewis the Secretary was instructed to cast the vote of the Society for Dr. Hilliard.

Dr. Jones requested the members of the Board to remain in the hall after Dr. Picot's address.

The conjoint session was then declared adjourned.

The North Carolina Medical Society was then called to order by the President.

Dr. Lewis offered a resolution, as follows:

Resolved, That the members of the Nominating Committee be elected one from each Congressional District by the members present on the night of the first day.

Dr. Faison stated that the resolution of Dr. Lewis involved a change in the Constitution; but reminded the Society that at the last meeting he offered a resolution to increase the number on the Nominating Committee to nine.

Dr. O'Hagan thought that as the Society had been getting on, and smoothly, o nearly twenty years, it were best to "let well enough alone." He did not object to distributing the committee throughout the State, but was afraid it was liable to some objections on account of the size of the State and the consequent trouble in members always being present on the first day.

The chair overruled the point of order taken, that Dr. Lewis' resolution should lay over for one year.

Dr. Lewis modified his resolution by striking out "first day" and inserting "second day," and adding "and, in the absence of any member from any district, the vacancy shall be filled by the President.

The resolution as modified being put to a vote, was adopted.

The report of the Finance Committee was then read. (See Appendix.)

Supplementary to the report Dr. Graham said he found among the accounts to be audited bills for publishing the meeting of the Society, and suggested that the committee instruct the Secretary not to publish the meeting of the Society in any paper which charges for the same. They ought to publish it as a matter of news.

Secretary Murphy read the duties of the Secretary as set forth in the Constitution, and added that as it was impossible for him to reach,

through the ordinary records of the Society, many who would be glad to know of the time and place of the meeting of the Society, he thought best to advertise it.

Dr. Graham denied any intention on the part of the committee to criticize the action of the Secretary, but had reference to the future

Dr. O'Hagan thought the meetings of the Society ought to be spread as far as possible, and that there is no other way to do so, and that as the treasury of the North Carolina Medical Society is in a healthy condition, the Society does not begrudge the outlay of $25 or $30 to make its meetings known.

The Committee on Credentials reported on the names of Drs. N. D. York and W. B. Small.

Dr. Bobbitt read a paper of personal privilege.

Dr. Bahnson rose to a point of order, saying the reading of the paper was out of order.

The chair reserved its decision till Dr. Bobbitt had stated his position.

After the reading of the paper, Dr. G. G. Thomas thought he was forced to rise to a point of order. There was no feeling in the matter for either party, but this case had already been before the Board of Censors and finally settled by them, and this Society has no control in the matter.

Dr. Hill could not see why Dr. Thomas could not make this in order. Dr. Bobbitt had been refused consultation by the Raleigh Academy of Medicine, and now only asks that the Society endorse him as a member in good standing.

Dr. Bahnson thought his name being on the roll was sufficient endorsement for his good standing.

Dr. Foote said the Board of Censors had done nothing in the matter, but declined to have anything to do with it. He thought Dr. Bobbitt's position was, whether or not he should suffer the ban of the Academy of Medicine. He wanted to know if he had violated the Code of Ethics. If not, he wanted their endorsement; if he has, he is willing to submit to their condemnation.

The chair said the question before the house was a point of order, and remarks should be germane to that subject.

Dr. Foote said his remarks would lead him to that subject, viz: has a local organization a right to do that which this Society says

is wrong, and thereby misplace before the public a member of this Society?

The chair stated that so far as he ruled in the matter, he did not think a question could come up before this Society twelve months after it had been laid before the State Medical Society, and for that reason thought the point of order of Dr. Thomas well taken, unless Dr. Bobbitt desired to bring it in another shape. He understood from his reading that it was the same case he presented at the 1884 meeting in Raleigh.

Dr. Bobbitt said he only wished his status in this Society defined, and rehearsed the events that the members might know his position.

Dr. Payne thought the Code of Ethics required a practitioner to conform to the local rates adopted in his section.

Dr. John W. Long thought the Society and the Raleigh Academy of Medicine are two distinct associations, and have nothing to do with each other.

Dr. Foote suggested that a committee of three or five be appointed to inquire into the matter.

Dr. Eugene Grissom thought that any action whatever upon this question would be an act of supererogation. This Society has nothing to do with local matters. As to the status of Dr. Bobbitt, his name on the list unimpeached is sufficient vindication of his status. He said this Society had adopted for its code the code of the American Medical Association, and read an extract from Section 7 of that code bearing on the point. He thought this was a question out of the jurisdiction of this Society, and moved the indefinite postponement of the matter, which motion was lost.

Dr. Cobb thought the question should be settled between the Raleigh Academy of Medicine and Dr. Bobbitt.

Dr. Satchwell moved that a committee of —— be appointed to investigate and report at this annual meeting on the standing of Dr. Bobbitt.

Dr. Graham thought the motion entirely unnecessary.

Dr. Thomas thought that the committee should be none else than the Board of Censors.

The resolution of Dr. Satchwell being put to the house, was carried by a vote of 33 to 31.

The chair appointed on said committee Drs. Payne, Satchwell, Graham and J. W. Jones.

The Committee on Credentials reported on the name of Dr. Shubrick.

Dr. Foote said he was requested by Dr. ———— to pay his dues to the Society. He had been dropped from the roll in 1880 for non-payment of dues, and they amounted up to this time to $17, which he was willing to pay.

Dr. Faison thought according to the Constitution he should be admitted for the regular fee of $5, after paying the amount due at the time his name was dropped, and made a motion to that effect.

Dr. Payne thought he should pay the whole $17.

Dr. Faison's motion was carried.

Dr. Thomas F. Wood read a telegram from the President of the American Medical Association, stating there was a vacancy in the Committee on International Medical Congress of the American Medical Association, and asking the Society to make a nomination.

Dr. O'Hagan, after giving an account of the meeting of the American Medical Association at New Orleans, which he attended, nominated to fill the vacancy mentioned above Dr. Thomas F. Wood, of Wilmington, who was unanimously elected.

The chair appointed on the Committee on Nominations Drs. A. G. Carr, C. J. O'Hagan, W. D. Hilliard, J. R. McClelland, R. F. Lewis, R. L. Payne, H. W. Faison, T. E. Anderson.

The Committee on President's Address recommended that a section be formed on Forensic Medicine, and that the Code of Ethics of the American Medical Association be printed in the Transactions of the Society for 1885.

The chair appointed as Obituary Committee Drs. Cobb, Payne and J. W. Jones.

Dr. Wood offered the following resolution :

Resolved, That on and after this date, this Society deems it out of its province to attempt to regulate fees.

Dr. Pierce thought the resolution unnecessary, as the Society has never attempted or pretended to regulate fees, and moved the indefinite postponement of the resolution.

Dr. Wood's resolution was lost.

The chair announced that Dr. Picöt would deliver his oration on this (Wednesday) evening, at 8½ o'clock, in Stokes' Hall.

Dr. Carr, chairman of the Committee on Nominations, announced a meeting of that committee immediately after adjournment.

The chair asked for the report on prize essays, made special order for 3 o'clock.

Dr. Bahnson stated that only two essays had been received by the committee, and said if any more were to be handed in the committee would like to have them at once.

The chair postponed the report on prize essays till to-morrow.

Secretary Murphy read a communication from the Association of American Superintendents of Insane Asylums relative to the immigration of the defective classes.

CONVERSATIONAL.

Calcified Cord and Placenta.

Dr. H. W. Faison reported a case of calcification of the umbilical cord occurring in his practice.

Dr. Cook, of Leasburg, exhibited specimen of calcarious degeneration of the placenta.

The Committee on Credentials reported on the name of Dr. W. S. Monroe, of Montgomery.

The President set to-morrow morning, the 21st, for hearing the report of the chairman of the Section on Gynæcology and Obstetrics.

Dr. S. S. Satchwell, chairman of the Section on "The Practice of Medicine," presented an elaborate paper, which, on motion, was read by title, and referred to the Committee on Publication.

Dr. L. Julien Picöt delivered his oration entitled "Shall Women Practice Medicine?" in Stokes' Hall, Wednesday evening at 8½ o'clock, to a large and very attentive audience. It was a masterly effort, and the pleasing oratory of the speaker added to the beauty of his rhetoric and the force of his argument. At the close of the oration, on motion of Dr. Pierce, a copy was asked for to be placed in the published minutes of the Association.

The President then announced that the Committee on Prize Essays had decided to award the prize case of instruments to Dr. R. S. Young, of Concord, and, calling the gentleman to the stage, presented him with the case, saying:

"No labor has been rewarded so pleasantly as I think, sir, you will appreciate this. It is the result of your intellectual effort, which we are glad to say we see in the younger members of our

association. The hand that wielded the pen that won the prize will not lose its cunning in handling the instruments."

The Society adjourned till Thursday morning at 9 o'clock.

THIRD DAY—MORNING SESSION.

THURSDAY, May 21, 1885.

The meeting was called to order by the President at 9 o'clock.

Prayer was offered by Rev. Mr. Darnall.

Dr. Walter C. Murphy tendered his resignation as Secretary of the Society.

Dr. Satchwell read an obituary paper on the recently deceased members of the Association, which, on motion of Dr. Carr, was referred to the Obituary Committee.

The Committee on Credentials reported on the following names: Drs. B. G. Webb, E. P. Williams, D. C. Parriss, J. W. Littleton. D. T. Tayloe, J. J. Coleman, W. T. Pate, F. P. Cunningham, F W. Ritter, G. B. Nance, M. T. Fox.

The chair appointed the following as chairmen of Sections:

Medical Jurisprudence.—J. D. Roberts, Goldsboro.

Surgery—William B. Pritchard, Faison.

Obstetrics and Gynæcology—C. M. Pool, Rowan.

Pathology—J. A. Hodges, Fayetteville.

Materia Medica—J. L. Grimsley, Snow Hill.

Practice of Medicine—J L. McMillan, Red Springs.

Diseases of Children—J. B. Powers, Wake Forest.

The Committee on Credentials reported on the names of D. G. Caldwell.

The chair announced as next in order the report of the chairman of Section on Obstetrics and Gynæcology.

Dr. Weaver then read an extended and ably prepared paper on those subjects.

The committee appointed to investigate the status of Dr. Wm. Bobbitt in the North Carolina Medical Society made the following report:

"We, your committee appointed to inquire into and define the status of Dr. Wm. H. Bobbitt in the North Carolina Medical

Society, beg to report that we find nothing against the personal or professional character of Dr. Bobbitt, and that he is entitled to all the privileges and courtesies of a member of this Society.

"Respectfully submitted,

"S. S. SATCHWELL, Chairman,
"J. W. JONES,
"JOS. GRAHAM."

Dr. Grissom asked the chairman if the report was intended as a reflection, either directly or indirectly, upon the Raleigh Academy of Medicine.

Dr. Jos. Graham answered, as a member of the committee, that he wished this report to be distinctly understood as in no way reflecting upon the Raleigh Academy of Medicine. It merely defines the status of Dr. Bobbitt in this Society.

Dr. Grissom moved that the annual oration before the Society and public last evening, by Dr. L. Julien Picöt, be referred to the Committee on Publication, with instructions to publish it in the Transactions. Dr. Grissom remarked that the address contained much of beauty and elevated thought, and expressed in pure and elegant English. It was, in his opinion, in many respects, among the best addresses delivered before the Society on similar occasions for many years, and that its ideas commended themselves to the Society and to the profession.

The motion was unanimously adopted.

On motion of Dr. Cobb, it was decided to pay the phonographer $15 for his services.

Dr. S. D. Booth offered the following resolutions:

Resolved, That all regular meetings of the Medical Association of North Carolina be held in the city of Raleigh.

Resolved, That a tax of $1 *per capita* be levied upon the members of this Society, which shall be collected each year in addition to the regular dues, and the amount so raised shall be set apart as a sinking fund.

Resolved, That the said fund shall be put into the hands of a committee which shall be selected for that purpose, and this committee shall so invest or lend the money so raised as will continually draw a good interest.

Resolved, That when a sufficient sum shall have been raised, that this Association direct such a building to be erected in the city of Raleigh as will be a suitable depository for interesting and useful articles pertaining to medicine and surgery, and that the museum

and library shall always be under the immediate direction of the officers of the Medical Association.

Dr. Bahnson moved to lay Dr. Booth's resolution on the table, but the chair ruled that, according to the Constitution, it must lay over to be acted upon at the next meeting.

Dr. Thomas F. Wood offered his resignation as chairman of the Board of Censors, thinking the office incompatible with his position of editor of the JOURNAL.

Dr. Jones explained why it was desirable that the Board should reside in the same town, when, on the nomination by Dr. Bahnson, Dr. George G. Thomas was elected to fill the place vacated by Dr. Wood.

The Committee on Credentials made the following report: J. M. Emmett, H. W. Dorsett, Gilbert McLeod, J. J. Harrell, Zeno Brown, K. Leggett.

Dr. Ennett presented a paper entitled "Reduction of Dislocation of the Femur," which, upon motion, was read by title and referred to the Committee on Publication.

The Committee on Nominations reported as follows:

President—Joseph Graham, Charlotte.

Vice-Presidents—H. T. Bahnson, Salem; L. J. Picöt, Littleton; J. L. McMillan, Red Springs, W. W. Faison, Goldsborough.

Secretary—Julian M. Baker, Tarborough.

Treasurer—R. Lee Payne, Jr., Lexington.

Orator—George W. Long, Graham.

Essayist—R. S. Young, Concord.

Committee on Publication—Thomas F. Wood and George G. Thomas, Wilmington; W. T. Ennett, Burgaw; J. M. Baker, Tarborough.

Board of Censors—W. J. Love, Geo. G. Thomas, W. W. Lane, Wilmington.

Delegates to American Medical Association—I. W. Faison, T. F. Wood, Eugene Grissom, W. W. Lane, J. McDonald, S. H. Lyle, S. W. Stevenson, J. B. Gunter, W. P. Beall, J. L. Nicholson, D. B. McNeil, F. M. Rountree.

Delegates to Virginia Medical Society—W. H. Whitehead, N. M. Johnson, George A. Foote.

Delegates to South Carolina Medical Society—G. G. Smith, S. B. Jones, W. L. Crump.

Delegates to American Public Health Association—R. H. Lewis, W. H. H. Cobb.

Dr. A. G. Carr offered the following resolution, which was adopted:

Resolved, That the Medical Society of North Carolina return its thanks to Dr. Walter C. Murphy, our retiring Secretary, for the efficient manner in which he has filled the office, and regrets that his private engagements deprive the Society of his valuable services.

Dr. Harriss read a paper prepared by Prof. Holmes, of the University of North Carolina, exhibiting a specimen of petrified body, adding some remarks of his own in regard thereto.

The paper was referred to the Committee on Publication.

Dr. Harriss exhibited a post mortem specimen of bone removed from the spleen; also a lot of No. 5 shot removed from the vermiform appendix in another post mortem case. He remarked that as regards the specimen from spleen, this was the only case reported in Reynold's system of medicine from this country.

Dr. Harriss made a short report on Hydrochlorate of Cocaine, reporting two cases of successful cataract operations under its influence as perfectly painless.

Dr. Booth reported a case of vaginismus relieved by a vaginal injection of .4 per cent. solution of cocaine; and also found it useful in gonorrhœa.

Dr. Harriss reported a case of abscess of stump, in which hydrochlorate of cocaine injected into the cavity relieved pain so as to allow exploration. In extraction of teeth he did not find it so satisfactory.

Drs. O'Hagan and Payne both made remarks on the same subject.

Dr. Thomas F. Wood said he used cocaine in 10 per cent. solution with satisfactory results in urethral surgery, and in operations for stricture. In ear practice, he said, the results are variable. It is especially useful in removing missiles from the eye.

Dr. Baker read a paper on Aphasia.

Dr. Carr moved that the thanks of the Society be tendered Dr. Baker for his excellent paper, and that it be referred to the Committee on Publication. So referred.

Dr. Carr made a few remarks on brain injuries. He made mention of two or three cases of persons receiving apparently fatal

injuries to the brain, but in which skillful treatment brought about a cure. In the case of a child run over by a wagon, the skull was crushed, and the brain, or portions of it, had oozed out on the cloth in which the child's head was wrapped. He found some portions of the skull overiding others. He raised the sunken portions until in their natural position, after which the child got well without any untoward symptoms.

Dr. Hayes introduced the following resolution :

Resolved, That a vote of thanks is hereby tendered the citizens of Durham and members of the North Carolina Medical Association for the hearty welcome and hospitable treatment that were received at their hands during our brief stay in their midst ; and especially to Dr. A. G. Carr, we return thanks for his never-tiring assiduity in his attention to the wants and conveniences of every member of our Association.

Dr. Carr disagreed with the second part of the resolution, and thought he ought not to be singled out as doing more than others, and asked that it be stricken out.

Dr. Hayes would not accept the change, and the resolution as introduced was adopted.

Dr. Payne reported a case of lateral lithotomy for the removal of a stone weighing 2½ ounces from a child eleven years old.

Dr. J. W. Long reported a case of dry gangrene in a child which its former physician said had had diphtheria about three weeks previous. Dry gangrene formed very rapidly, having, in three or four days from the start, advanced to the knee.. There was no line of demarkation, and while waiting for it to develope the child took pneumonia and died. The child had no heart trouble, and he thinks had not had diphtheria, as he saw no evidence of it, and there was none in that vicinity at the time.

Dr. Thomas F. Wood said that, in lieu of a syringe, he had found a common sewing-machine oil-can very useful in pumping the oil into the urethra, in operations for strictures, and found in his experience in practising among the very poor where instruments were not at hand and not likely to be purchased, that the employment of just such familiar articles to be found in a household, often enabled the physician to render immediate service of some value. He had also used the small oil-can for syringing the bladder. Some of them were made flat, and were more convenient for carrying in the surgical bag than the conical ones.

Dr. Baker read a letter from Dr. D. N. Patterson regretting his inability to attend the Convention.

Dr. Pierce mentioned the recovery of a child nine months old from paralysis of the left side, arm and breast, treated on doses of 6 or 8 grains of calomel, with a little milk and water warmed ; and gave it also a solution of bromide of potash. The child recovered from paralysis entirely in three or four days. During the winter the child was taken in the same way, and he being out of town, another physician was called in, and the child died within a few hours. He did dot use mercurials, but used bromide of potash, and gave it a warm bath. This produced temporary effect, which soon wore off. He mentioned this to show that excessive doses of calomel could be used in the case of children.

Dr. Carr cited several instances to show how generally heart disease follows rheumatism in children.

Dr. J. W. Harriss mentioned a case caused by a woman throwing a pair of scissors at her son. The point struck him in the abdomen and must have punctured the gall-bladder, his shirt being covered with a fluid which must have been bile. Looking up authorities in this case, he found wounds in the gall-bladder classified as invariably fatal. This fellow, however, got well. A little abscess formed there, but seemed to be entirely superficial. Temperature never exceeded 102°.

On motion, the meeting then adjourned till 2½ o'clock this afternoon.

THIRD DAY—AFTERNOON SESSION.

THURSDAY, May 21, 1885.

The meeting was called to order at 3 o'clock.

Dr. W. R. Wood offered the following preamble and resolutions, which were adopted :

WHEREAS, The increasing demand of our people for a higher order of education in all the departments of knowledge render action in the premises on the part of this Society not only necessary, but imperative ; therefore be it

Resolved, That it is the deliberate opinion of this body that the want of proper facilities for acquiring a more extended knowledge of the medical sciences by the young men of the State demand that a Medical Department should be organized at the University of North Carolina, as nearly as practicable on the same basis as that of the Medical Department of the University of Virginia.

2d. That a committee of seven medical gentlemen, members of this Society, of whom the President shall be one, be appointed by the President to consider the advantages and feasibility of such a measure, and report the result of their deliberations at the next annual meeting of the Society, to the end that the matter may be properly laid before the Legislature at its next biennial session.

The chair appointed the following members on the committee suggested in Dr. Wood's resolution: Joseph Graham, W. R. Wood, A. G. Carr, H. T. Bahnson, C. J. O'Hagan, T. D. Haigh, Thomas F. Wood, R. H. Lewis.

The following resolution, as offered by Dr. Julian M. Baker and amended by Dr. A. G. Carr, was adopted:

Resolved, That this Society offer the following prizes to be competed for at its next session on the conditions hereinafter named: For the best essay on surgery, a case of instruments valued at $25. For the best essay on a subject pertaining to obstetrics or gynæcology, a case of obstetrical instruments valued at $25. For the best essay on a subject pertaining to the practice of medicine, $25 in currency. All essays are directed to be forwarded to the chairman of the committee, to be appointed at this meeting, one week prior to the next meeting of the Society. Said committee to act as judges of merit and report on the second day of the session. All such essays as the committee deem worthy, to be published in the Transactions of the Society. They are to be handed in under assumed names.

The chair appointed on the Committee on Prize Essays Drs. R. L. Payne, Geo. G. Thomas, P. E. Hines.

Dr. Whitfield reported a case of a lady over 23 years of age cutting her lower teeth on the right side. He noticed in extracting a tooth that the root was partially absorbed, and the second tooth took its place in about two weeks. He wanted to know if anyone had seen such a case.

Dr. Long said he knew a man forty years old who had not cut his.

Dr. Satchwell said there was a paper read this morning from Prof. Holmes, and moved to have it referred to the Committee on Publication, as it was not done this morning. So referred upon the vote of the house.

Dr. Thomas F. Wood gave some observations he had been making as to

TUBERCULOSIS AMONG DOMESTICATED FOWLS.

He said: Microscopists are making investigations into the pathology of tuberculosis by studying the life-history of the lower organisms, and were making what appeared to non-experts to be wonderful advancement in knowledge. In this department of learning, though, it would probably not be the privilege of many of us to join as workers, and we would content ourselves with the finished work as it comes to us from the pathological laboratories. But there is another side of the investigation in which we could join most effectually, namely, in the clinical study of phthisis as it relates to man and the domesticated animals. The special point which now interests us is the contagiousness of phthisis. How far are we justified in giving credence to the doctrine of the contagiousness of phthisis? Are we to regard the bacilli found in tuberculous matter the causative agency, and are they always present? At any rate, while the laboratory pathologists are busy with their work, we must not be idle.

At this late hour in the session he did not especially care to give publicity to a study in animal pathology he had just began, but it might incite others who had the same means at their command to pursue the study during the coming year.

He read from his note-book:

Capt. Buncker, a patient afflicted with pulmonary phthisis for a year or so. He is a learned German, with cultivated power of observation. He spends most of his time in the early spring on the piazza in the sun. He expectorates in the yard in front of the piazza, at random. He has several domesticated fowls that feed about in the yard. He noticed that they greedily devoured expectorated sputa, and especially one lusty cock, got the largest share. This fowl was really "cock of the walk," and had vanquished his antagonists in such a way as to establish his supremacy. His voice was strong and loud. After Capt. Buncker's attention had been attracted to him for his pugnacious qualities, he noticed with regret that the animal's voice became more husky, and he finally became voiceless. He would flap his wings and stretch his mouth open, but there was little audible sound. Finally his feathers became less

glossy, his wings drooped, his strength failed, and, after becoming quite emaciated and wretched, he died. The cock had what was apparently analogous to laryngeal phthisis. Some hens in the same brood are since affected and are under observation.

Dr. Wood said he knew it was premature to present such preliminary study, but he did not expect it to be barren of results. He had communicated his observations to Dr. D. E. Salmon, director of the Bureau of Animal Industry, and he was kind enough to quote some observations bearing upon the same experience :*

KOCH : *Mittheil. a. d. K. Gesundheit's. Amt. II.* 1884, *P.* 41.

Tuberculosis in hens appears frequently endemically, destroying not infrequently all fowls of a poultry yard. In the intestine and liver of diseased animals are found, more or less irregular at times, quite smooth tumors, ranging from size of pea to walnut—in one case even to the size of a small apple. These tumors are tough, whitish and yellowish in spots, on section the yellowish spots in part calcified. In one case the marrow of the long bones contained tubercles as large as hemp seed. These were rich in tubercle-bacilli, most numerous around calcified portions. In the nodules, situated in intestinal walls, the bacilli could be traced as far as villi. This points to infection from intestine, as the lungs were only slightly implicated. It might also be inferred from this that bacilli may escape from intestine with fèces, the latter acting as foci of infection.

HENRY : *Recueil de Méd. Vét.* 1884. *P.* 233.

Reports a case of generalized tuberculosis in a hen. Great emaciation and feebleness preceded death. On post mortem a large tumor was found in the abdominal cavity attached to the terminal portion of the intestine. Its interior was made up of numerous cavities, with partition in part destroyed, containing a grayish liquid of a disagreeable odor. Another tumor near the kidneys, liver and lungs, being implicated. The presence of bacilli was not determined.

CORNIL ET MEGNIN : *Tuberculose et Diphthérie des Gallinacéo in Compt. Rend. Soc. Biol.* 1884. *P.* 617.

Tuberculosis is very common among the fowl, the turkey, the

*The above abstracts were only referred to in outline in Dr. Wood's statement, but were considered of enough interest to be given now in full.

pheasant, the partridge and the pigeon. Its chief seat is the liver, the spleen and the peritoneum.

In the liver of a hen and a pheasant the tubercles appeared at the surface up to the size of a hemp seed, either homogeneous and of a semi-transparent grayish, yellowish color, or filled with very minute opaque grains. Bacilli found chiefly in ovoid or round cells, with one or two nuclei. These cells (10–15 m.) were situated in the meshes of a reticulated fibrillar net-work, at times in vessels. No hepatic cells to be seen. (Recent.)

Calcarious yellowish grains observed in the tuberculous lesions. Bacilli so numerous as to be seen with the naked eye as a colored map in stained sections.

RIBRERT: *Deutsche Med. Wachenschrift.* 1883. *P.* 413.

Has seen in four cases an abundance of tubercle-bacilli within the tuberculous nodules of intestine and liver. He found these nodules quite dense, projecting from the intestinal walls into the peritoneal cavity covered by the smooth serous membrane. In some cases a cicatrix on the mucous surface corresponded to the nodule in the wall of the intestine. In nodules scarcely distinguishable with the naked eye, the bacilli were in the centre with a zone of inflammatory infiltration. In larger nodules the centre was necrosed and surrounded by a zone free from bacilli. Outside of this they appeared abundantly. No giant-cells were observed.

In one case the bacilli were so numerous that in the stained section their map could be distinguished by the color with the naked eye.

JOHNE: *Deutsche Ztschr f. Thiermedizin.* 1884. *X.* *P.* 155.

Cites an epidemic among fowls of a poultry-yard lasting over a year. Many fowls, chiefly young, died of general debility, after great emaciation and weakness. On post mortem the livers and intestines showed extensive tuberculous lesions in which the bacilli could be demonstrated. The cause of the epidemic was supposed to be a young lady who died of tuberculosis at about the time of the epidemic. She had been in the habit of feeding the fowls, especially chewing meat for them. The sputum was habitually poured on the manure pile frequented by the fowls.

Communication of M. Nocard to *Societé Centrale de Médecine Vétérienne.* Meeting of the 12th February, 1885:

A farmer near the Veterinary School possessed a superb barn-

yard cock. For two or three months he had lost successively a dozen fowls, young or old, that had died in a state of extreme emaciation.

He had been able to make autopsies of the last victims, and in all he found formidable tuberculous lesions of the abdomen. The liver always proved to be the first and the most profoundly attacked, then, in the order of intensity, the intestines, the kidneys, the glands, the ovaries, and, in the last place, with the very rare lesions of the lungs. In all the diseased organs were found prodigious numbers, with all the morphologic and histo-chemical characters of Koch's bacilli.

How is this disease developed in the fowl? The following is what the investigation of the question establishes:

Among the laborers on the farm there is one who for a long time showed signs of tuberculosis: voice, cough, expectoration, hæmoptisis, night sweats, nothing is lacking in the picture, not even the presence of characteristic bacilli in the products of expectoration. Little by little this unfortunate man became incapable of doing his ordinary work, and, that he might not be deprived of all means of gaining his living, the farmer entrusted the fowls to his care; during five or six months he filled this *function*—easy place; three months elapsed before the first fowl succumbed to tuberculosis. The progress of the contagion is very simple. You know how voracious chickens are; from the time one lets anything drop they eagerly swallow it; as soon as one spits on the ground, they dispute for the meagre morsel.

Our poor sick man, who spat much, laughingly told how the fowls appeared to consider this supplement to their rations very dainty. It is not necessary to seek elsewhere for the way which the contagion invaded the animals of this poultry-yard.

The Committee on Credentials reported on S. T. Nicholson, David Lucas, A. G. Person, A. A. Maynard, P. R. Hardie, W. P. Galey, M. Bolton, W. E. Turlington, C. G. Nichols, C. S. Pratt, A. P. Keever, James M. O'Kelly, R. B. Ellis, J. W. McGhee, J. L. McMillan, W. . Pharr, W. B. Crisp.

On motion of Dr. Ennett, the Convention adjourned, to meet in Newbern on the third Wednesday in May, 1886.

W. C. McDuffie, M.D., President.

Walter C. Murphy, M.D., Secretary.

REPORT OF THE BOARD OF MEDICAL EXAMINERS.

The Board of Medical Examiners of North Carolina met in Durham at 8 A. M., May 18th, and continued in session, with but slight intermissions during the morning hours, until 10 A. M. Friday, 22d inst.

One hundred and one applicants appeared for examination, of whom 84 were duly licensed, after giving satisfactory evidence of competency and good moral character. The following applicants passed their examination successfully:

Drs. James Allison Hodges, Fayetteville.
" John Hannibal Baird, Briggsville.
" John Morehead Emmitt, Hope Mills.
" Leona Marion Archey, Concord.
" Archibald Currie Jordan, Caldwell Institute.
" Joseph Ira Coleman, Hurdle's Mills.
" Charles Gettis Nichols, Mount Tirzah.
" William Rankin Goley, Long Branch.
" Furman Paine Covington, Norwood.
" John Washington Littleton, Albemarle.
" Daniel Greenlee Caldwell, Charlotte.
" Harrison Wood Dorsett, Bethany.
" Albert A. Hill, Lexington.
" Addison Garland Person, Fremont.
" Millard Fillmore Fox, Greensboro.
" Thomas Benton Ashbuy, Mount Airy.
" Alfred Sidney Atwater, Rialto.
" Robert Lindsay Mullen, Ringwood.
" James Andy Wise, Red Mountain.
" Francis Wade Hughes, Newberne.
" Kenelm Leggett, Palmyra.
" Joseph Irving Rogers, Alexander.
" Joseph Brank, Weaverville.
" William Pendleton Kennedy, Warsaw.
" John Benjamin Powers, Wake Forest.
" Thomas Cleaborn Bullock, Blockersville.
" William Theophilus Spruill, Youngsville.
" Thomas Renny Harding, Huntsville.
" Josiah Burke H. Knight, Eagle Rock.

Drs. William Henry Harrell, Williamston.
" James Mackintosh Hays, Wilton.
" Joseph Foy McKay, Averysboro.
" Samuel Barnes Dew, Wilson.
" George Columbus Cope, Heilig's Mills.
" Dabney Belvin Reinhart, Thomasville.
" Annie Lowrie Alexander, Cowan's Ford.
" Samuel Timothy Nicholson, Washington.
" John Thorne Nicholson, Bath.
" David Nicholas Dalton, Winston.
" Samuel Lewis Montgomery, Monroe.
" James Sylvanus Bell, Matthews.
" William Watson Pharr, Query's.
" David Lucas, Enfield.
" James Clifford Perry, Newbegun.
" Gilbert McLeod, Morven.
" John Miller Faison, Faison's.
" Joseph Calloway Whiteside, Bridgewater.
" William Hill Wilson, Dallas.
" Charles Edward Adams, Gastonia.
" John Cooper, Hives.
" Charles William Sawyer, Elizabeth City.
" Burton Walker Hathaway, Edenton.
" Edwin Boushall Ferebee, Belcross.
" William Edgar Powell, Castona.
" John Buxton Carr, Old Sparta.
" John Pugh Smallwood, Lewiston.
" Romulus Alonzo Whitaker, Trenton.
" Adolphus Pinckney Keever, Keeversville.
" Edmund Frederick Ashe, Wadesboro.
" Hugh Willis, Summerfield.
" Paul Joseph Kluttz, Gold Hill.
" Samuel David Booth, Oxford.
" Patrick Booth, Knap of Reeds.
" Benjamin Griswold Webb, Asheville.
" Maltis Laudric Hicks, Wakefield.
" Henry Sloan, Lisbon.
" James Horton Benton, Newton Grove.
" David Bryan Jordan, Grantham's Store.

Drs. Thomas Newby White, Belvidere.
" James Jacob Harrell, Gulf.
" Zeno Brown, Greenville.
" William Beauregard Crisp, Ceffo.
" William Thoroughgood Pate, Laurel Hill.
" Atlas Allen Maynard, Clayton.
" P. R. Hardee, Durham.
" Frederick William Ritter, Shiloh.
" David Thomas Tayloe, Washington.
" George Benton Nance, Olive Branch.
" Egbert Perses Williams, Cedar Creek.
" Mayland Bolton, Rich Square.
" David Clingman Parris, Hillsboro.
" Henry Harding Dodson, Milton.
" Willis Edgar Turlington, Elevation.
" Charles Sumner Pratt, Raleigh.

Temporary licenses, to hold good only till the next meeting of the Board of Examiners, were issued as follows:

Drs. Kenneth McKenzy Clark, Kittrell.
" Julius Jasper Hilton, Hillsdale.
" Willis Jasper Vestal, Tyro Shops.
" James Munroe Raby, Roxobel.

One was allowed to withdraw, and twelve were rejected.

A resolution of the Board provides that an applicant for temporary license can appear before one member of the Board, and, after submitting to a written examination upon all the branches, said examination to be submitted to another member, and, if satisfactory to both, a temporary license will be issued.

The opinion of the Attorney General not being adverse to the propriety of it, the Board resolved to hold a meeting in August of this year, to facilitate and encourage the further examination of applicants for the license.

W. J. H. Bellamy, M.D.,
Secretary Board of Medical Examiners of N. C.

PRELIMINARY MEETING OF THE STATE BOARD OF HEALTH.

DURHAM, N. C., May 19, 1885.

A preliminary meeting of the State Board of Health was held in the Hotel Claiborn on the evening of May 19th, 1885. Present, Dr. J. W. Jones, President; Dr. Thomas F. Wood, Secretary; Drs. Lyle and Satchwell, and Prof. Simmons.

The reading of the minutes of the last meeting were dispensed with as the record book was inaccessible.

Dr. Wood suggested to mark out a course of business for the conjoint session of Wednesday.

Dr. Wood mentioned two letters received by him inviting the Board to visit the institutions and examine them. One from the Institution for the Deaf and Dumb and the Blind, and the other from Dr. P. L. Murphy, Superintendent of the Western North Carolina Insane Asylum, at Morganton, North Carolina.

A letter from Mr. E. R. Stamps, President of the Board of Directors of the North Carolina Penitentiary, was read, inviting the Board to examine the convict quarters in the W. N. C. and A. & S. R. R. Action on these matters was postponed to the Wednesday meeting.

It was proposed for order of business Wednesday for conjoint session—

President's Address.

Secretary's statement of the workings of the Board.

Suggestions of desirable things for the Society to do.

Reports from County Superintendents.

Election of members to fill vacancies.

The question of subscribing to a few practical papers was brought up, and it was the sense of the meeting that the Board is a progressive body, and ought to instruct themselves in matters appertaining to the public health.

The subject of hygiene in public schools and text-books on physiology and hygiene was discussed.

The Board then adjourned to meet on Wednesday, May 20, 1885.

THOMAS F. WOOD, M.D., Secretary.

REGULAR MEETING OF THE STATE BOARD OF HEALTH.

DURHAM, N. C., May 21, 1885.

A meeting of the State Board of Health was held in Stokes' Hall on Thursday, May 21, Dr. Jones, President of the Board, in the chair. Present,

Mr. Arthur Winslow,
Prof. W. G. Simmons,
Drs. W. D. Hilliard,
" S. H. Lyle,
" R. L. Payne,
" R. H. Lewis,
" J. W. Jones,
" Thomas F. Wood.

A dispatch was read from Dr. McDonald regretting his inability to be present.

Dr. Lewis was requested to write a paper on the Care of Eyes and Ears in Children, and Prof. Simmons to make an investigation and report at the next annual meeting on Illuminating Oils.

It was decided to divide up the work of inspection, Drs. Wood, Hilliard and Payne going to the Western part of the State, and Drs. Jones and Lewis, Prof. Simmons and Mr. Winslow to the Raleigh Institutions.

Dr. Wood asked for suggestions as to papers and books to be procured for the Board.

It was decided that Dr. Wood procure such sanitary papers as he might be acquainted with, and which would be of use to the Board.

Authority was given Dr. Wood to complete his set of the papers of the American Public Health Association for reference by the Board at a cost of $5 per volume.

The report of the Treasurer was read, as follows :

Postage	$ 19 55
Receipt book	50
Copy of Act relating to Board of Health	3 10
Expenses of members at Raleigh meeting March 20–21	104 60
Furnishing office	50 00
Preparation of office in lieu of rent	75 00
Express on stationery to members of Board	4 50
Salary of Secretary and Clerk March and April	200 00
Total	$457 25

On suggestion of the President, it was decided to appoint an auditing committee at the next meeting.

Dr. Payne suggested that the Secretary issue a pamphlet for the instruction of country physicians as to the duties of the Superintendent of Health, and also in the organization of County Boards of Health.

Dr. Wood referred to a mistake made at the Raleigh meeting, reading from that part of the proceedings relating to the election of county superintendents, as follows:

Resolved, That, in view of the recent amendments enacted to promote the efficiency of the North Carolina Board of Health, we respectfully appeal to our medical brethren of the counties that have no auxiliary county board, to proceed to organize at once, and elect their county superintendents; and we recommend to county boards that have held no biennial meeting the present year, to meet as early as practicable and elect their respective officers and superintendents to serve until the next regular biennial election, and report to the Secretary.

It was afterwards discovered by the terms of the law that meetings of organization of County Boards were not admissable where such Boards were in existence, and that superintendents already holding office would hold over until the regular meeting in January. Correction so ordered on record.

Dr. Jones suggested cautioning county superintendents when making a visit to jail or poor-house, to do so without giving notice to the person in charge of said institution.

It was decided to require County Superintendents of Health to give a descriptive memorandum from the County Superintendent of Health for each prisoner sent to the Penitentiary from the county jail. Also to state the number of prisoners received at the jail who can read and write. It was suggested, and the duty was undertaken by Prof. Simmons, to correspond with the chief officer of the Signal Service Bureau for instruments for twelve observatories to be distributed throughout the State.

Dr. Jones thought it very desirable for the promotion of immigration that climatological records should be established.

The Board then adjourned *sine die*.

CLINICAL RECORD.

By Robert S. Young, M.D., Concord, N. C.

(Twelve Selected Cases, dating from May 20, 1884, to May 20, 1885.)

(Read before the North Carolina Medical Society, at Durham, N. C., May 20, 1885.)

Case 1.—Atonic Imoptency.

A hardware salesman, 25 years of age, consulted me on May 30, 1884, with the following history: He began to masturbate at the age of 16, and he continued to indulge this propensity until three years ago. Upon abandoning this habit, he became the victim of profuse nocturnal seminal emissions of a more or less periodic character, that is to say, they would occur almost every night, and frequently as often as four times in one night, for from ten days to two weeks, and then there would be an intermission of about a week's duration, during which time, however, his nightly repose would be occasionally interrupted by the most lascivious dreams, with imperfect erections ,showing that the hyperexcitability of the sexual organs, although greatly diminished, is by no means abolished. He had been under treatment for a year before applying to me, which resulted in considerable improvement in his general health and materially lessening the frequency of his nocturnal discharges. Several years had elapsed since he had experienced sexual intercourse, he having relinquished the more natural method of gratification in favor of the more convenient plan of masturbation. About two months before placing himself under my care he, desiring to test his sexual powers once more, was disgraced by failure by reason of an incomplete erection, the glans penis especially being very soft and inelastic, ejaculation also being premature, taking place at the moment of contact, before introunission was accomplished. From this time until I saw him May 30th, 1884, the nocturnal seminal emissions were occurring at the rate of from three to five times a week, and flakes of mucous, which the patient supposed to be serum, were discharged in advance of the stream of urine. He was easily fatigued, highly excitable, and his hands were tremulous and cold, and he suffered from dull,

heavy pains in the groin and lumbar region, together with habitual constipation.

Upon his first visit to my office I made an examination with a set of soft, acorn-headed, bulbous explorers, which disclosed slight tenderness of the urethra at one and a half inches from the meatus, and more decided tenderness and stricture, calibre No. 25 (French scale), at four and a quarter inches from the meatus, the tenderness increased as the prostatic portion was approached. On withdrawing the instrument a stricture, calibre No. 12, was found at five and a half inches from the meatus. The bulb drew out a large quantity of a whitish fluid, supposed to come from the prostatic portion of the urethra. The urine was acid and loaded with the lithates, but the genital organs were normal. I prescribed a mild cathartic mineral water, to be taken every night, also warm hip-baths and warm enemata night and morning, with 30 grains bromide of potassium every eight hours. The diet was restricted to perfectly bland and digestible articles; sexual intercourse and alcoholic stimulants were forbidden. I ordered one drachm of a solution of nitrate of silver, 2 grains to the ounce of water, to be injected into the urethra four times a day. On June 3d, 1884, four days after treatment was begun, I introduced a No. 14 steel bougie (French scale), and repeated the operation every other day for about two weeks, and then had the patient to pass it himself once every day. At first, whilst the urethra was so sensitive, the instrument was withdrawn immediately, but as the hyperæthesia was reduced it was allowed to remain longer, frequently as long as ten minutes, which limit, however, I never exceeded. I gradually increased the size of the bougie used in proportion to the decline of hyperæsthesia and the enlargement of the stricture, until we reached No. 32, which was the largest that would pass through the meatus without cutting. The coarctation was now cured, or at least it was as large as the meatus, and the sensitiveness was completely obtunded. During the first fortnight of treatment there were eight nocturnal emissions, but from that time until discharged the patient had only one.

He was discharged on October 10th, 1884, perfectly restored. His restoration was closely followed by marriage, and he has frequently told me since that event that he experienced no difficulty whatever now in the ssxual act, and as a proof of the truth of his statement he will soon become the father of at least one baby, and if there be anything in appearances, I should say two.

Case 2.—Uterine Hemorrhage during the early months of Pregnancy.

Mrs. V., aged about 26 years, came into my office on June 2d, 1884, to know whether or not she was pregnant.

She had been married a little more than two months. Her general health was excellent—had no history of previous uterine trouble, her menstruation having always been regular up to the last period which she missed.

Having had slight morning sickness, the uterus being slightly but uniformly enlarged, and the vaginal mucous membrane being of a decidedly blueish tint, I gave the opinion that she was pregnant.

Ten days later I was called to her, and found considerable hemorrhage occurring. I at once made a thorough examination with a speculum, but was unable to discover the cause of the flow.

As the same natural and physical signs existed as before, I anticipated an abortion, and ordered her confined to bed, and administered the remedies usually given on such occasions.

The next day the flow had ceased. A history similar to this was given at various intervals for a month longer, when, after the closest interrogation, I discovered that her husband, a strong, robust and vigorous man, was in the habit of having connection with her, never less than three times, and frequently as often as six times, with but one or two exceptions since they were married, and that, in addition to this excess of coition, the husband was possessed of a most redundant penis, which I deemed a prominent factor in the existing trouble.

Lately it had been usual to notice a little blood after each intercourse—sexual congress was at once interdicted, and there was no more blood from her uterus.

I saw my patient frequently afterwards, but not professionally until term, when I delivered her of a large, healthy female child. The labor was complicated by placenta prævia, which necessitated the turning of the child.

Now it is an admitted fact that there is an abnormal determination of blood to the uterus during coition. It is quite likely that there is considerable shock to the uterus by the penis coming into violent contact with the os, which in the case of very short vaginas and unusually long penises, as in the present instance, may amount

to considerable displacement, leading to a partial separation of the secundines and its consequent hemorrhage. It is quite possible that the attachment over the mouth of the uterus may have predisposed to the hemorrhage, but that coition was the exciting cause admits of no doubt.

Case 3.—Syphylitic Hepatitis.

On June 15th, 1884, I was called to see a ten-year-old white girl, suffering from abdominal enlargement and dyspepsia, with the following history: Both parents living and in good health. The patient has been remarkably free from the ordinary diseases of childhood, and seemed to enjoy better than the average health until about one year ago. She then began ailing without being actually sick. Her appetite failed; she lost flesh; had some eructations; her bowels moved sluggishly, and a general lassitude came over her. She was treated for scrofula. dyspepsia and worms; tried a change of climate and the numerous mineral springs; nor did she escape the trial of every "patent medicine" which was recommended and urged by her many friends; she was kept from school and placed upon all kinds of diet, all to no good. The abdomen began to swell and continued from day to day to grow larger; her strength completely broke down at last, and she could no longer leave her bed. This was the history of the case up to the time of my first visit. When I saw the little girl I at once noticed her cachectic appearance; her wrinkled face; the dull, listless expression of her sunken eyes; the peculiar dirty-yellowish hue of her skin; her emaciated body, and the prematurely old expression of countenance so often met with in children suffering from hereditary marasmus. The organs of the chest were normal. The abdomen was greatly enlarged by serous effusion. The fullness of the superficial abdominal veins denoted a congestion of the portal circulation. The great amount of the effusion and the tympanites above, effectually prevented me from determining the size of the liver with any degree of accuracy. Her tongue was pale, flabby and covered by a whitish coat, and was indented by her teeth, which presented the characteristic notching of the central incisors first described by J. Hutchinson, which is of great significance in the diagnosis of retarded hereditary syphilis.

Remembering that ascites is rare in children, and that, when it happens, it is generally caused by tubercular peritonitis, or by cancer of one of the abdominal viscera, I made, more by exclusion than anything else, and by reflecting upon the failure of all kind of treatment tried so far, the general diagnosis of retarded hereditary syphilis, and the special diagnosis of syphilitic hepatitis. If success of treatment can verify a diagnosis, then mine was correct. Paracentesis was performed, the effusion and tympanites seriously threatening a fatal interference with the action of the heart, and nearly a gallon of a slightly opaque, yellowish fluid, containing a large percentage of albumen, was slowly withdrawn.

Mercurial inunction into the abdominal walls, and gradually increasing doses of the iodide of potassium, formed the treatment, and I had the gratification of seeing the child in good health by August 10th, a little less than three weeks after beginning these therapeutic measures.

Immediately after the performance of paracentesis the liver was found to extend down to within an inch of the ilium; the organ was soft, tender, and its margins smooth and even. The spleen was also slightly enlarged. The fluid never accumulated again. The patient was afterwards placed upon a tonic treatment, and when discharged the liver still extended two inches below its normal position.

Several months later (December 6th) I saw her again; she seemed in excellent health, and there was no trace left of her former illness, except the notches in her teeth. The liver and spleen promptly returned to their natural size. The urine had never contained albumen in abnormal quantities, but for a short time there was present therein a trace of the coloring matter of the bile.

Case 4.—Remittent Fever Complicated by the Vomiting of Pregnancy.

On Sunday, July 6th, 1884, I was called to see Mrs. Mc., aged 27 years. Had been married six years, and was the mother of two strong, healthy boys, aged 2 and 4 years, respectively. She had been sick about three weeks when I was called in. She had been attended by a man who called himself a physician, but who in

reality knew nothing about medicine at all, having never seen the inside of a medical college, but had acquired his whole knowledge of the subject while acting in the capacity of a nurse in one of the Petersburg hospitals during the late war. As the case did not progress favorably, her husband had repeatedly asked the medical attendant to procure some competent aid; this he persistently refused to do, saying, with that degree of "cheek" which only this class of men can exercise: "The case is perfectly clear to me." Finally, however, he concluded that the case was not altogether as clear as he had once imagined, and, abandoning all hope of his patient's recovery, took his departure. Then it was that I was invited to see the case. I found the patient with a temperature of 103°, pulse 120; skin hot, dry and of a yellow hue, of which color the sclerotic coats also partook; the head ached severely in the frontal region; the tongue was dry and covered with a yellowish-brown coat. The bowels had not moved for nine days, which action was produced by a large dose of Epsom salts. Physical examination revealed a greatly enlarged and extremely tender liver; also an enlarged spleen. There was considerable tenderness over the stomach also, which, they said, was due to a blister which had been placed there several days previous to control the vomiting, which, however, it had failed to do. She had missed her last monthly period, her time having been about the beginning of this attack (three weeks ago). But the most distressing symptom of all was the vomiting. Her stomach would retain absolutely nothing, the mere mention of any remedy frequently being sufficient to bring on a paroxysm of vomiting, which in every case would be accompanied by the most terrible retching and nausea. This excessive vomiting and elevated temperature (which had now lasted for three weeks) had reduced the naturally plump form to little more than skin and bones. The first thing I did was to administer a large, simple enema, which emptied the bowels effectually; then a hypodermic injection of $\frac{1}{8}$ grain morphine, which calmed her stomach considerably. I then applied cantharidal collodion over the liver and produced a blister there, to obviate an abscess in that organ, which I believed was highly imminent, and then I began with my anti-emetic remedies, and exhausted the whole list without receiving one particle of benefit from any. After failing in this line I concluded to allow the stomach to rest, and began the administration

of quinine for rectum, in 30 grain doses every four hours. After showing the nurse how to give the enemas I went home, leaving instructions not to give anything, not even ice, by the mouth, and keep up the injections until I returned.

It was 9 A. M. on the 7th when I saw my patient again. I went prepared to produce abortion in case the quinine had not exerted its oxytocic properties and done it for me. She had vomited numerous times during the night, but had retained all her enemas, having received five up to this hour; she still complains of headache. I tried her stomach with a little lime water and iced milk, but it was immediately ejected. I did not attempt it again that day. Her temperature was 100°, pulse 110. Said she felt no effect from quinine as yet; no uterine contractions. I added 1 grain of opium to each injection, and ordered them to be continued at the same interval. I returned that evening about sun-down, and found her with a temperature of 100½°, pulse 112; said she could hear a little roaring in her head, and that it still ached a little. She had vomited eight times since I saw her last. The vomit consisted of bile and mucous. The day before I took charge of the case she vomited a good deal of matter which they described as looking like beef liver (which I supposed to be blood-clot) and some little pure blood; it was this fact which caused their first physician to despair. The blister over the liver had done well. I ordered it to be dressed with carbolized vaseline, and the quinine and opium to be continued through the night as usual.

July 8th, temperature 99½°, pulse 92, strong and firm. She vomited five times during the night, but would sleep between times, and said she felt a little refreshed. Head still ached a little; was deafened by the quinine, and complained of a peculiar sensation about the eyes and dimness of vision; her pupils were both dilated (both to the same extent) in spite of the opium she had taken. I did not know how to account for this, but reduced the dose of quinine to one-half the quantity she had been taking. I returned again that evening, and found the temperature 100°, pulse 98; had vomited only twice that day, but had strained very much both times; pupils still more dilated and vision almost gone; she could not distinguish a man from a woman by sight. I ordered the quinine and opium to be continued through the night.

July 9th, 8 A. M., temperature 99°, pulse 86; patient strained

twice last night, but vomited nothing. She says with the exception of the roaring in her head and her blindness, she feels pretty well. She cannot distinguish daylight from darkness to-day. I ordered the same treatment continued. I could not see her again that day, but on the next morning at 8 o'clock, July 10th, her temperature was normal, as was also her pulse. She had not vomited in twenty-four hours. I tried her again with iced milk and lime water, and was gratified to have it retained and actually relished by the patient. Her vision was totally gone. I had the quinine and opium continued until that night, and then withdrawn. I called only once more to see her during that attack. Her temperature never arose again, and has not vomited to this day, that I am aware of. She had severe vomiting with her previous pregnancies. It was nearly two months before any improvement took place in her eyes; all this time her pupils remained dilated, but from that time on vision gradually returned until it was entirely restored. I delivered her at term of a fine, healthy boy baby. I was anxious to have her eyes examined by a specialist with an ophthalmoscope, but did not succeed, owing to our remoteness from an oculist. My opinion is that either the straining and vomiting, or the quinine, produced the trouble—probably both played a part in producing an effusion into or behind the retina, which underwent a gradual absorption and allowed things in the interior of the eye-ball to again assume their normal position and discharge their normal functions. I do not pretend to assert that this is the proper solution of the problem, but mention it as the probable state of affairs within the eye-ball.

I gave the patient during the treatment 525 grains of quinine.

Case 5.—Diabetes Insipidus.

A gentleman of about 40 years of age called at my office on the 4th of September, 1884, to obtain advice with regard to a malady under which he was suffering.

Mr. B. had a good family history. He drank moderately of whiskey, but never to excess.

He passed, on an average, ten pints of urine daily, of a specific quantity of 1005, of acid reaction, and without a trace of albumen or sugar.

The disorder came on gradually, and when he first noticed it he was in excellent health. There was actually no cause to which it could be assigned, unless, perhaps, to overwork and worry, or to a doubtful history of a strain in lifting a heavy weight. He never had venereal disease, and had received no injury to the head or to the spine; he had not had a sun-stroke; there was no malarial history. His digestion was fairly good; his bowels were rather constipated; no disease of the heart, lungs, or any of the viscera could be discovered; the temperature was normal; the pulse a little fast. He had lost flesh steadily and rapidly, and was strikingly emaciated when I saw him, about six months after the outbreak of his malady. He complained of nothing but debility, of a feeling of weakness in the small of the back, of the incessant urination, and of an irritability at the neck of the bladder, with a sense of burning, for which no adequate local cause could be discovered.

He declared that he was not thirsty, and that he passed more water than he drank, and unless he deceived me such was indeed the case. I had him to measure the fluids of every kind he took; they never exceeded six pints, and I cut them down to four pints, whereas he passed not less than eight, and oftener ten pints in the twenty-four hours. He was very restless. There were occasionally chilly sensations and flushes of heat, and he was sometimes bathed in perspiration, but there were no night-sweats.

After observing his case while he was taking no medicine and under varied diets, and finding it uninfluenced, he was placed on drachm doses of the fluid extract of ergot three times, and subsequently four times, daily, and for four days six times daily. In a few days after beginning this treatment he was no longer obliged to get up at night, and the pains had all left him; the flow had decidedly decreased. On the eleventh day I saw him and noticed a great improvement; he said he had passed only five pints during the last twenty-four hours. On the twenty-second day of treatment he was voiding a little less than four pints of urine, and his whole condition was greatly better. The ergot was reduced to a drachm three times a day. It had, throughout, not given him any inconvenience whatever. On the twenty-fifth day the ergot was still further reduced; he only got thirty minims thrice daily, and was discharging three and a half pints of urine daily, of almost normal specific gravity.

On the thirteenth day the ergot was withheld entirely, and the patient given the elixir of iron, quinine and strychnine for ten days. At the expiration of this period he was passing about three pints of urine, while drinking about five pints of fluids. His general condition was good, but I prescribed cod liver oil for him, under which he fattened and grew strong. The irritability at the neck of the bladder and all other uncomfortable symptoms, disappeared when the diuresis was controlled.

I discharged him cured on November 1st, 1884, over six months since, and he still remains strong and vigorous, passing about the right quantity of normal urine.

I have not, I regret to say, been always successful in the treatment of diabetes insipidus with the fluid extract of ergot; while I have effected a cure in some cases by its use, I have signally failed in equally as many, if not more.

Case 6.—Malarial Hæmaturia.

On November 22d, 1884, about noon, I was called to see Mr. C., a young gentleman 23 years of age, who gave me the following history: He had been having chills throughout the whole fall and latter part of summer; he had one last night, together with sick stomach and occasional vomiting, and since daylight had passed from his bladder a quantity of almost pure blood. He had a fine physique, good constitution and regular habits. During my visit he was seized with another chill. His face exhibited more than ordinary pallor, lips became livid, skin dry and had a violent pain in the lumbar region. His tongue was slightly coated and his bowels were loose. I at once gave him 10 grains of calomel, divided into two doses, the second dose to be taken in two hours; at the same time gave $\frac{1}{4}$ of a grain of morphia hypodermically to relieve the pain in back. At this time the pulse was 116 per minute, and temperature was 99°. I returned at 4 o'clock that afternoon, and was told that the patient had thrown up just after taking each powder I had left. The pain in the back was better, the skin dry, hot and of a saffron color; pulse 120, feeble and soft; temperature 100°; urine scant and of a dark blood color. I then ordered

quinine in 5 grain doses every hour, but the stomach would not retain it; then I resorted to the gelatin capsules, but with no better result.

At once appreciating the urgency of the case, I determined to administer the drug by enema, which I proceeded to do, in 30 grain doses, repeated every three hours, but apparently without effect. The next morning, November 23d, at 8 o'clock, I again saw the patient. His skin was more intensely yellow; he had voided about one ounce of urine, which was, in fact, almost pure blood; nausea and vomiting continued; no evacuation of the bowels; pulse 120, with same character as at last examination, and temperature $\frac{1}{4}°$ lower. I determined, in addition to the enemas of quinine, which I ordered to be resumed, to employ the hypodermic method also, as an auxiliary, repeating it every hour until profound cinchonism was produced. At 9 A. M. I applied a sinapism over the whole abdomen, and had the extremities and back rubbed with the spirit of turpentine on a coarse cloth and gave hypodermically 1-16 grain of morphia to allay vomiting, which seemed to exert a salutary influence for a short while. Hiccough now supervened, which proved exceedingly troublesome throughout the case. I remained with the patient until 9 P. M., and when I left there had been no appreciable change in his condition.

The next morning, November 24th, at 8 o'clock, the general appearance and symptoms were the same; no discharge from the bladder; one dark, tarry evacuation from the bowels; pulse 108, very soft; temperature $99\frac{1}{2}°$; inclination to sleep slightly increasing. The skin has become moist during the night, which condition recurred at short intervals for twenty-four hours; the same treatment continued throughout the day. I called at 11 P. M. and found my patient growing worse. The bladder feeling somewhat distended, I introduced a catheter and drew off almost four ounces of bloody urine; tried various diuretics, but to no effect.

On November 25th, 10 o'clock A. M., condition much worse; more stupor; pulse 120, soft and compressible; temperature $100\frac{1}{2}°$; quinine treatment continued; other diuretics tried; hot vapor baths applied as often as circumstances would permit; counter-irritation continued, but the location of same changed to various places.

November 26th, 10 o'clock A. M., pulse 100; temperature 100°; general condition much the same; catheter brings away one ounce

of clear fluid, inodorous; free evacuation of the bowels during night. Same treatment continued.

November 27th, 10 o'clock A. M., patient growing worse; evidently much weaker; stupor increasing; no urine; bowels quiet; pulse 96; temperature 98°; tongue dry and sores upon teeth and lips. Ordered beef extract, hot vapor, turpentine and friction over the kidneys; 9 o'clock P. M., still growing weaker; beef extract forced throughout the whole night.

November 28th, 8 o'clock A. M., condition still worse; pulse declining in frequency and volume; total suppression of urine or other fluid from bladder; hiccough persistent; beef extract continued; all medicines withdrawn; the symptoms continue slowly but steadily to grow alarming; pulse failing; temperature lowering; respiration sighing and irregular; no action from the bowels or kidneys until the morning of the 29th at about 11 o'clock, when quiet death suspended all efforts.

Case 7.—Puerperal Eclampsia.

At 8 o'clock A. M. on December 2d, 1884, I was called by Dr. A., of our town, to assist him in a case of puerperal eclampsia.

The patient, E. W., aged 25 years, single, was seized about 12:30 or 1 o'clock that morning with a slight spasm; it was so slight as not to alarm the attendants, but in the course of a short while she had another, and in a little time a third, and then a messenger was dispatched for their physician. He arrived at 4 o'clock A. M., and found his patient profoundly comatosed. She had been unconscious since 2 o'clock A. M.. She had had six convulsions before his arrival, and was in the midst of one when he entered the room. Vaginal examination revealed no dilatation of the os, and there were no uterine contractions. Her mother said she was at term. Her breathing was stertorous, her pupils dilated, her pulse small and feeble. She had three convulsions during his examination. He administered $\frac{1}{4}$ grain of morphia and 1-64 grain of atropine hypodermically and retired. He returned at 8 o'clock A. M. and took me with him.

When I arrived the patient was still comatosed and having convulsions at intervals of about ten minutes. We relaxed her with

inhalations of chloroform. Digital examinations performed again and found the os patulous but not dilated. The patient would not swallow chloral, so we again gave hypodermically ¼ grain of morphia. She had bitten her tongue fearfully. At 11 o'clock A. M. we again relaxed her with chloroform and again gave her the hypodermic of morphine. The convulsions were still occurring, but they were not so severe and the intervals were growing longer.

At 12:30 P. M. suddenly recalled; found child born. *The membranes were intact.*

The child had been expelled by one terrible throe during a convulsion; it was born lifeless, of the male sex; quite small (weight 5½ pounds), looked to be badly nourished, but was fully developed.

There was but little amniotic fluid in the membranes, which were immediately opened with a pair of shears.

After delivery the convulsions did not cease, but continued to recur in close succession. The pulse at this time was entirely incompressible at the wrist. Hypodermics of morphia were kept up every two hours. At 6 o'clock P. M. her condition was such as to make us abandon all hope of her recovery; death seemed imminent, but morphine kept up to prevent recurrence of convulsions.

December 3d, 8 o'clock A. M., convulsions ceased during the night; pulse still so feeble and fast it cannot be controlled; breathing still stertorous. Ordered that stimulants and nourishment be given in case she got able to swallow; also directed doses of the bromides and chloral in the event she regained the power of deglutition. We returned at 4 o'clock P. M. and noticed signs of returning convulsions. She had swallowed nothing as yet. The bladder had not been emptied for two days. Had made two fruitless efforts at catheterization because of the violence of the patient when the genitalia were touched, convulsions being produced if the finger should perchance impinge upon the clitoris. Chloroform was given to the surgical degree, and the bladder successfully evacuated; about ½ gallon of dark ammoniacal urine being voided.

An old lady in attendance recognizing the necessity of having the bladder emptied, had tried the potency of pouring water from one vessel to another to produce urination, and was greatly chagrined and disappointed when her device failed.

Our patient had about forty convulsions in all; had no more after her bladder was emptied.

She made a prompt and perfect recovery, and was discharged on December 6th, 1884.

Case 8.—Mammary Carcinoma.

Mrs. H., aged 42 years, mother of one child, aged 22 (a daughter), whose health is not good, but no local disturbance of any kind.

About three years since Mrs. H. discovered a small lump in her breast, her attention having been called to it by pains of a lancinating character. The mass was not larger than a common hazlenut, when first found, but was extremely painful at times, especially at the menstrual point; it was situated in the left mammary gland to the lower and outer side of the nipple; perfectly mobile, but from the first of a stony hardness. The case progressed with a very slow but steady growth, being at times so pained as to keep her awake and impair the general health by interfering with her alimentation and digestion. About one year ago the nipple was found to be retracted and firmly fixed to the morbid growth, as was also the integument overlaying the mass. Pains now became more frequent and radiated to the surrounding structures, especially to the shoulder and arm of same side. I noticed that my patient was now becoming emaciated, and that if anything was to be done it must be done without delay. One year ago I advised the extirpation of the diseased mass, but failed to have her understand the seriousness of her condition; however, now she concluded to have it removed, and on January 7th, 1885, I proceeded to the work.

She was at first placed upon the operating table and anæthetized with chloroform; then an elliptical-shaped piece of integument about five inches in length and three inches in width was removed, and the carcinoma dissected out. I went down upon the pectoralis major muscle and removed some of its fibers, for the tumor had become adhered to the fascia covering it. The vessels, all but one, which I tied, were secured by tortion, they being unusually small and few. Before I began I prepared a 10 per cent. solution of carbolic acid, and during the process of the operation this was used in sponging out the wound; after the cutting was finished the wound was thoroughly cleansed with this solution and left open for two hours, simply covered with a linen cloth saturated with the solution of carbolic acid. At this time the wound was clean and the edges presented the gluey

appearance familiar to every surgeon. At the expiration of two hours I closed it with ten very fine silk sutures and strips of adhesive plaster; over that a linen cloth, folded four-fold and dampened with a 4 per cent. solution of carbolic acid, and over all a roller bandage.

This dressing was not removed for four days, and the wound was found to have united by first intention throughout three-fourths its whole extent, and not a drop of pus about the remaining portion of the wound; on the seventh day the sutures were removed, and it was found that only a small portion (about ¾ of an inch) was not yet healed. The pain had vanished, and the patient said she had not been so well for many a day.

In about ten days a very small quantity of laudable pus was found covering the small unhealed portion.

Upon the fifteenth day the union was complete, and remains so up to the present date, with every indication that it is permanent.

The general health of my patient was never better than at the present time.

I regard the antiseptic method of treatment as almost absolutely necessary to the speedy and perfect union of wounds of this kind, especially if there be a particular desire to avoid constitutional disturbance.

Case 9.—Recurrent Fœcal Abscess.

I was summoned on January 17th, 1885, to see the mother of one of our most respected colored citizens.

Her age is 56 years. I found her in bed, complaining of a somewhat obscure abdominal pain, and she presented me with the following history:

On the 9th, about a week before my visit, she had been exposed to both cold and wet for a considerable time; from this she dated, and to this she attributed, her trouble. On the next day after her exposure she began to experience vague uneasiness and pain in the abdomen, but kept about her household duties until the 4th, when she was obliged to go to bed; the pain did not subside, so she sent for me on the 17th. She had no fever, and lay on her bed in the dorsal position, with left leg drawn up; the pain was mainly confined to the left inguinal region and iliac fossa. Upon examination I found quite an extensive cicatrix, which she informed me was the result of an opera-

tion for strangulated hernia performed upon her by Dr. Johnston at the age of 26. This cicatrix occupying the usual site of operation for femoral hernia, consisted of two parts, one extending an inch or more parallel with Poupart's ligament, and the other joining it almost at a right angle and extending two inches down the thigh, giving the whole scar a T shape. I examined this whole region very thoroughly, but elicited nothing but deep-seated tenderness. From her account of the old operation for strangulated hernia, I was led to believe that at that time there was gangrene of the gut and fæcal fistula, the wound being many months in healing. She stated that her pain was paroxysmal in character, though the soreness and inability to extend the limb was constantly present. The paroxysms were accompanied by a great deal of borborygmus and a free discharge of gas, which always relieved them. I left her some small doses of calomel and opium, to be taken every three hours. Next day, the 18th, her condition was about the same; bowels had been moved without discomfort, but with no relief to the abdominal pain, which was rather worse than before. There was some induration and tenderness around the cicatrix, with slight fever. I ordered a poultice, and directed nitre and aconite, with an anodyne, at bed-time; 19th, no material change; treatment continued; 20th, patient had a chill last night; considerable fever to-day; pulse 115; fevered tongue; rather anxious expression of countenance. I could discover no decided evidence of suppuration, although I felt sure it had occurred; ordered the same treatment to be continued; 21st, last night, or rather this morning early, she called her daughter up with the exclamation that something was running from her; this was found to be pus. The abscess, which had been so insidiously forming, had burst during sleep. The daughter stated that it had discharged about a pint of highly offensive matter. The opening, which was large enough to admit the point of one's little finger, was just at the point of juncture of the two cicatrixes already described. The discharged pus was mingled with a yellowish, rather feculent smelling material, like the contents of the small intestines. I dressed the abscess with absorbent cotton, strongly impregnated with carbolic acid, to absorb and disinfect the discharge, and prescribed quinine and whiskey internally, with a diet as nutritious as possible, but as little likely to leave fæcal residue; 22d, patient feeling much more comfortable; sat up to have bed

made, which she had not been able to do for several days; the discharge rather free and decidedly more feculent. A probe inserted into the opening, passed upward and inward its whole length. No change was made in the treatment; 24th, did not see patient yesterday; opening has enlarged to about double its original size; its edges are ragged and sloughy-looking; there is a very free feculent discharge, which is darker and more consistent than has been observed heretofore. She complains of considerable pain. There is now no fever or acceleration of pulse. Yesterday she had a large costive evacuation of the bowels. I ordered her a large dose of castor oil. Her daughter says that prunes which she had eaten were soon afterward seen in the discharge, and fluids taken seemed to pass immediately through. The patient is beginning to look ashy and thin; 26th, did not see patient on yesterday; the castor oil ordered at last visit operated once quite freely, part of the fæces passing through the wound, from which there has been less discharge since. He is entirely free from pain and feeling better than at last visit; sat up a little this morning.

The edges of the wound have lost their sloughy appearance; they look clean and granulating nicely. There is some induration and infiltration extending down the thigh. Ordered another dose of castor oil. From this time, for a month or two, the opening in the groin kept discharging feculent matter very freely, and the patient's condition became very unpromising and precarious.

The discharge was thin and copious, and though distinctly feculent, was not especially offensive; it seemed to be undermining the patient's strength quite seriously. The administration of opium and other astringents at length diminished the amount of discharge, and it became more consistent, more of it passing by the natural avenue and less by the artificial anus. I supported the patient's strength in the meanwhile by the administration of cod liver oil and other tonics.

By the beginning of April the wound began to diminish in size and kept on slowly contracting until within the past week it has closed entirely, and seems to be firmly and securely united, and the patient is as well as she ever was.

The successful termination of two attacks of fæcal abscess is as unusual as it is interesting. The long period between them (30 years) is a feature of great rarity.

I presume that after the first attack the bowel in some way was bound down by a mass of inflammatory deposit in the left iliac fossa; some strain or other injury to this may have set up an inflammation, or some pouch or cul-de-sac may have formed and some indigestible substance lodged in it and ulcerated its way through; but most probably from cold and exposure inflammation was set up in the mass of new-formed tissue and communicated with the intestine; at any rate the case is one of great rarity and interest, and full of instruction and encouragement upon a subject about which none of us know too much.

Case 10.—Polypus of the Uterus Successfully Treated by Ligature.

A lady 60 years of age consulted me more than two years since for a difficulty in passing her water. She stated that the effort was occasionally attended with pain, as it was at that time; and further, that she had had falling of the womb for more than eighteen years, from which she had suffered very much and for which she had worn an instrument for a long time by the advice of her family physician. Supposing that she labored under procedentia uteri, I did not interrogate her upon that subject, but prescribed for the difficulty of which she complained. Of that she was soon relieved, and I was not employed by her again for nearly two years.

On February 4th, 1885, she called upon me and said that her health and strength were failing her, and the instrument had for some time past failed to afford her the support it formerly did. The last remark led me to inquire regarding the supposed displacement of the uterus. Her replies led me strongly to suspect that she and her physician had been mistaken relative to the cause of her difficulty; but being informed by her that she had been examined by a number of physicians, who had all agreed that it was prolapsus, except one who thought it was ulcer of the womb, I was distrustful of my own opinion, but did not at that time inform her of my doubts in her course. I prescribed a tonic and she retired. She informed me that she had borne four children, and had been a widow for thirty years. While deliberating upon the subject I became convinced that if her replies were correct, she had polypus,

and not prolapsus, as she supposed, and determined to acquaint her with my opinion, notwithstanding her assurances. This I had the opportunity of doing next day, and accordingly I intimated to her that I entertained doubts of her having falling of the womb, and that it was more probable that it was a tumor, which might perhaps be removed. It was difficult to persuade her of the possibility of a mistake, as she had great confidence in those whom she had consulted. She then confessed to me that she had never had an ocular or digital examination performed; this encouraged me to propose such an examination, which she at first promptly declined, but a day or two later, after she had conversed with those of her acquaintance upon the subject, some of whom had undergone such an examination, finally, but with great reluctance, submitted on February 7th, 1885. An examination confirmed my opinion; a polypus was found of no inconsiderable size; it was of the fibrous character, cylindrical in form, and ulcerated at its most dependent part; it had near its neck a small protuberance, which appeared like a small tumor, arising from the polypus itself. On removing the instrument it was partially protruded without the vulva, when, by traction and separating the labia, the os uteri surrounding the neck of polypus could be brought into view. Its pedicle was from ½ to ¾ of an inch in diameter and contained a large artery which pulsated strongly. The os uteri surrounded the neck of the tumor, through which it no doubt issued at some former period, as it was probably originally formed within the uterine cavity. The edges of the mouth of the womb were continuous with the neck of the tumor, which had been kept open by uterine discharge. Into this opening I introduced a silver probe an inch and a half. Though the lips of the womb and the peduncle of the tumor were continuous, the line of union could be distinctly traced by the dissimilarity of the color of the womb and the tumor; the former being of its natural color, the latter of of a dusky purple. She had constant puriform discharges, frequently mingled with blood, and she said she had the change of life on her for seventeen years, and that she was not free from it yet.

After the examination I informed her that it was a tumor, which could, in all probability, be safely removed; but as it had been of so long-standing, and the system accustomed to the puriform and bloody drain, and the health and strength so much reduced, I

deemed it prudent to take advice before proceeding to remove it. Accordingly I consulted several of my medical friends, the most of whom advised against interference, only one, in fact, concurring in my own opinion, but as I had great confidence in his judgment, and as my patient was such a sufferer, I concluded to make the venture, which I did on the 12th of February, 1885.

The presence of the large artery made me decide upon the old method of ligation, as I was afraid I could not control the hemorrhage if I cut it.

I threw around the pedicle, just at the line of juncture above described, a piece of silver wire, and then twisted it down upon the enclosed tissue, thereby strangulating the tumor. On the second day, February 14th, the wire ligature was twisted still tighter, and again on the fourth day, February 16th, and on the fifth day, February 17th, the tumor was separated. It then measured six inches in circumference and four inches in length, although much diminished by discharges after ligation. While the ligature was applied she was unable to void her urine, which was drawn off by the catheter. The next day after the application of the ligature there was some derangement of the stomach and a little elevation of temperature, but nothing serious.

She had been unable for several years to hold her water perfectly, but since the separation of the polypus she has regained the power to control its passage entirely.

Her health has very much improved. No unfavorable consequences have followed the operation; and although so long accustomed to a constant drain upon the system, yet no inconvenience from plethora has arisen.

It is now more than two months since the operation. The vaginal discharge ceased almost immediately.

Case 11.—Chorea during Pregnancy.

On March 31st, 1885, I was called to see Mrs. W., 23 years of age, in her second pregnancy, twenty-one days before her accouchement. She had had chorea from the commencement of her pregnancy; at first mild, but gradually increasing until it became so exceedingly severe that when I first saw her I had but little hope of

her recovery. Almost every muscle in her body seemed to be in a state of extreme agitation. Her upper and lower extremities were so completely beyond her control that, to keep her safe from injury, it was necessary to have them constantly restrained by two assistants; and then, as she was sitting upon a sofa, her body was so violently moved about that her head was forcibly brought in contact with the wall before I could have her removed to a place of safety. She was then carried to an adjoining room and placed in the middle of a large bed, and in the course of my examination I discovered that her movements had been so violent and long-continued that the skin was worn off the elbows and knees, and that the garments were stained with blood. Her pulse was accelerated, but otherwise natural; tongue coated, bowels constipated and appetite slightly impaired.

I ordered a bottle of the citrate of magnesia at once, and 20 grains bromide of potassium, with one teaspoonful of the elixir of valerianate of ammonia every two hours. On the morning of April 1st I found her not improved. The bowels had been moved. I ordered the bromide of potassium and the valerianate of ammonia to be taken before each meal and at bed-time, and 2 grains of the sulphate of zinc after each meal, which was increased on the 2d to 4 grains; on the 3d to 6 grains; on the 4th to 8 grains; on the 5th to 10 grains; on the 6th to 12 grains, and on the 7th to 15 grains, which last increase, however, was rejected by the stomach on taking the second dose. From this time the symptoms of chorea declined so rapidly that in twenty-four hours she could use her hands to feed herself, and even to sew, and in a few days she went about as well as any other person. On April 20th she had an easy natural labor and a speedy recovery.

Large doses of the zinc could not be tolerated by the stomach except in pills, nor at any other time than after a full meal.

This patient had been attacked similarly during a previous pregnancy, but a miscarriage at about the sixth month brought the disease to an end before it had produced such terrible results.

The bromide of potassium was used then, as well as all throughout the latter attack, but without good effect, and in my opinion it did little or no good aside from its enabling the stomach to retain the large doses of zinc which I discovered it could not do without.

The patient had chorea at the age of 13 years, and her catamenia

made its appearance shortly afterward. The disease then lasted about two years, and in that time a great many physicians had treated her, but does not know to whom or to what remedy she must attribute her recovery.

Case 12.—Carbolic Acid Poisoning from Intra-Uterine Injection.

On the 24th day of April, 1885, during the treatment of a case of puerperal fever, I thought proper to use the intra-uterine antiseptic douche, and employed a 10 per cent. solution of carbolic acid, the effect of which was to produce acute carbolic acid poisoning. This occurred with the first application, and it is not necessary to say that I did not again use the intra-uterine wash in that case.

The following were the symptoms present in the case: livid face, rolling of the eye-balls, with consequent strabismus and contracted pupils, absence of consciousness, increase of respiration to 40, and pulse to 150 per minute, clonic spasm, jerking and twitching after cessation of convulsion; then came a cold, clammy sweat, vomiting and the characteristic black carbolic acid urine and hemorrhage from the uterus.

Fortunately, after several hours of anxiety on my part, she fully recovered from her poisoning, and in a week's time followed her entire restoration to health. By reporting this case I do not desire to be understood as underrating intra-uterine irrigation in the management of puerperal septicæmia, for I have too often seen most excellent results follow this plan of treatment, to wish it abandoned; nor would I ever have its use curtailed, but I regard this case, as well as others similar that have occurred, to be significant warnings against carrying on the modern irrigation of the uterus with carbolic acid solution in an indifferent way.

REPORT OF THE FINANCE COMMITTEE.

Dr. Graham, Chairman of the Committee on Finance, made the following report:

To balance in hand at last session (1884)	$ 70 41
Amount received at said session and during interim	651 51
Total	$721 92
Contra:	
To expenses for year 1884	$465 00
Balance in Treasury	$256 92

We recommend an assessment of $2.00 *per capita*, as heretofore, and that the Secretary and Treasurer be paid the same salary as before.

JOSEPH GRAHAM,
THOMAS HILL,
R. F. LEWIS.

ADDRESS OF W. C. McDUFFIE, M.D., THE RETIRING PRESIDENT.

Delivered before the Medical Society of North Carolina, at Durham, N. C., May 20, 1885.

Gentlemen of the Medical Society of North Carolina:

The haltless march of time brings us again to the threshold of another year of our existence as an organized association.

To-day we enter upon its thirty-second annual cycle; and when I reflect upon the seeming brevity of the fifty-two weeks that have elapsed since our last anniversary, I am impressively remiuded of the "but yesterday's" enjoyment in "the City of Oaks," and of the magnificent hospitality of its warm-hearted citizens.

We assemble to-day in this youthful but vigorous town, invited to partake of its "nectared sweets," and while it is our chief concern to study the enigmas of life, and by deep research discover the causes of all human suffering, and the surest modes of their removal, yet let us enjoy unalloyed the pleasure that these our annual respite days afford. It is with this feeling I greet you, and grasp with hearty zest the hands of those I meet but once a year.

A retrospect of the affairs of our Society during the past year shows much that will interest the historian, and while it is not my intention, in this short address, to look back, but ahead, yet I cannot forget, or omit, to notice the labors of our profession as a sanitary organization, and the crown of success obtained by persistent eff rt. Like the faithful sentinel on the watch-tower, who spies the enemy afar off, so we know that the price of health is "eternal vigilance," and while our shores were free from the dread pestilence which was devastating other lands, we reorganized, as it were, and secured the means wherewith to prevent its spread, to stay its progress, should the emergency arise.

The legislative enactment for this, and those or the State Board of Health and the practice of medicine, was the result of the combined efforts of members of our Society inside and outside of the Legislature, and are long strides in the path of advancement, to which I shall allude further on.

The past year has been one also of peculiar interest to the busy practitioner. The almost unprecedented dry summer and fall, extending from July to November, nearly throughout the entire State, brought many of us in contact with disease showing much malignancy in character. This is the experience of all with whom I have conferred. We have suffered defeats, perhaps, as well as gained victories during this busy period of our professional existence, been depressed, as well as elated, as the battle went on, but we have the consolation that follows duty well performed, and again, "To hallowed duty, here with loyal and heroic hearts bind we our lives."

"Rugged strength and radiant beauty,
These are one in nature's plan,
But humble toil and heaven-ward duty,
These will form the perfect man."

Death, our common enemy, has invaded our own ranks since last we met. 'Tis meet that we pause and drop a sympathetic tear. We have been called upon to deplore the loss of such estimable members as a Robinson, a Whitehead and a Pender—men whose kindness of heart and benevolent examples have ennobled human nature. It is the death of such men that communities mourn, that social circles weep over—men whose places cannot be filled. These were burning and shining lights that have gone out in the Medical Society of North Carolina. Those busy brains are at rest. Those great hearts, always responsive to duty's call, to the cry of distress, or the sweet accents of affection, are still! Those once elastic frames, that never wearied in well-doing, "in journeyings oft, in labors many," are stark in death; and those brilliant minds, that irradiated beyond mere localities, are lost in the blaze of infinite intelligence! Their eulogy is left for abler pens than mine. Suffice it now that we hear the whisper from the spirit land, "Be ye also ready."

It is not, in my humble judgment, the rightful province or the proper function of the presiding officer to consume the time of the Convention with a lengthy thesis upon any particular medical subject. Such thesis should be the work of the members, and especially of the chairman of sections, and I trust we may have the pleasure of listening to much at this Convention which will command our attention and make our session both interesting and instructive. It would seem rather to be the duty of the President to suggest or point out ways

and means of improvement in our workings, somet ing whereby our progress and advancement as a body of men seeking to benefit mankind, may be made more rapid, more interesting, and withal more harmonious; if he can do that he will have accomplished enough to gratify the ambition of the most aspiring member of our Association.

I am not vain enough, my friends, to expect *great* results from my feeble effort to-day, but it may be that, perchance, in my earnest desire to see our noble profession go forward in advance of others, I may let fall a word, or give vent to an idea, that will eventually assist in raising the standard of our high calling. I shall at least impose upon myself the obligation of candor, as all conscientious inquirers should do, and if the suggestions are not based on sound reasoning, let them fall.

With this view, I will ask the attention of the Society for a short time to the subject of

PREPARATORY EDUCATION.

That learning is useful for the purpose of perfecting civilized society, has been so frequently repeated and so generally and unhesitatingly received as a maxim, that no one would be found to question its truth. But probably one of the greatest evils which accompanies the spontaneous assent to evident propositions is that generally, being couched in universal terms, expression becomes ambiguous, and while words are preserved, ideas may be lost. It is well, then, sometimes to revert to those maxims in order to fix their meaning by elucidating their phraseology.

Literature has usually been considered under a two-fold aspect—speculative and practical—while the former merely regards abstract truth, the latter applies it to our concerns. I am inclined to believe that there exists much less of mere speculative learning than is generally supposed, and that what frequently receives the appellation, is but the appropriate basis upon which is raised the great superstructure of that which is practical. Allow me to illustrate by example: The demonstrations of mathematics and the calculations of algebra, would by many persons be denominated speculative, and even some might be found who would call their study idle, but abandon them, and see how much practical knowledge you destroy.

The observation of the paths of the planets, the distances of stars, their mangitude, relation and position, would seem to have but little influence upon the ordinary avocations of busy life, yet it is clear that the science of navigation depends chiefly upon astronomy, and thus much of the profit derived by our active merchant from the facilities of our age has been remotely created by the researches of some secluded sage, whose bones have mouldered in former centuries in Chaldea or in Egypt. There is no such thing as speculative science that is not applicable to the common purposes of life.

Let us take up what are usually designated as the "learned professions." Law, which is the creation of rules of conduct, and the enforcement of those rules, perpetually implicates life, liberty, property, public peace and private security. Here, besides, that mental discipline and habitual restraint which arise from a good education and a regular exercise of superior faculties—a nice power of discrimination and an extensive acquaintance with ancient legal enactments, etc., will be at least highly desirable, in fact, necessary. It is true, that here there is much of what is usually called practical, rather than speculative; but to converse most beneficially with the ancient legislators we should speak their language. This is only attainable by the aid of a classical education. It is not unfrequently urged against this position that we have seen many instances of great men who have well discharged their duty without these aids. I do not question the truth of the assertion, but my inference would be that they would have done better had they been so aided. It is added that men of this description have in some instances outstripped those of classical attainments. I would only reply that, with the help of those attainments, they would have gone farther. Let us view the requisite qualifications for a useful member of our own profession—for an accomplished and scientific physician and surgeon.

Besides that power of acute perception with which, as a kind of instinct, a man might be specially gifted, so as almost intuitively to detect the seat, the nature and extent of a disease; it is highly desirable that the mind should have been so disciplined as to avoid the hasty conclusions to which an overweening and too confident self-sufficiency would rash. The general and usual diagnostics are greatly modified by the habits of the individual, by the influence

of climate, by the period of life, by the previous treatment, and by a number of other peculiarities, which vary to an indefinite extent. If the truth of the admonition *festina lente* can be more usefully practical in any one case than another, it is here. Genius, decision and action, quick as thought, can, and often do, much for life and health, but unfortunately they may also, by one mistake, fix the irrevocable doom of the patient. It is not by the knowledge of the vocabulary of a dispensatory, and an acquaintance with some of the chief properties of drugs; it is not from the hasty and wanton mangling of a decaying subject, and possessing a general notion of the uses of bones, muscles and vessels, that correct and useful medical skill is acquired. No; it is by the laborious investigation of a clear, calm and cautious mind. No reading can supply the place of judgment, but no power of judgment will avail much without facts upon which decisions may be formed. *An original and distinct perception, united to deliberate reflection, and a steady habit of observation, form the best foundation for useful healing knowledge;* and every mode by which these faculties can be improved is an important branch of previous education.

I would ask here whether, generally speaking, the mind is prepared to receive the seeds of any science with no better preliminary education than is generally afforded by an ordinary "old field" "rule of three" school? I would unhesitatingly say no; and my belief is that it would be just as reasonable for the farmer to expect a superior crop from unprepared soil, as it would be to look for medical or surgical proficiency from the attendance upon lectures by a half educated youth, let his natural abilities be what they may. Whoever, either from his own experience or the testimony of others, is acquainted with the progress of knowledge amongst students, must at once concede that the unprepared tyro in science will lose much more than is usually supposed, at the commencement, from the mere inability of an untrained mind to comprehend the views or to keep pace with the strides of an experienced proficient. We are the creatures of individual habit; no speculative observation will supply the place of training—it will certainly do much to improve the observer; but it will never, even in a moderately remote degree, be equally beneficial. It is true, you may sometimes meet with apparent exceptions to this rule, but I apprehend that, upon close examination, they will not be found such in reality.

As there are men of great natural strength of body, of well regulated courage and extraordinary ability, who will always be an overmatch for the best trained individual of puny frame and nervous debility, so in the literary world there are those to whom God has given great mental energy, but to which man has added little cultivation ; such persons will always surpass these others, upon whom great human labor has been comparatively lost, because the Creator has withheld the necessary share of capacity. I need not dwell upon the impropriety of raising a sophism upon this fact. I believe you will agree with me that they whom this delusion could influence are not of the race of intellectual giants. Yet in this broad land of ours, where there exists a general ambition to obtain the honors and emoluments of the learned professions in the shortest possible time, with the least possible expenditure, and only that quantity of exertion which will barely suffice, there must always be a disposition to dispense, as far as possible, with extensive preparatory education. When we add to this that self love, which in every individual creates partiality and great esteem for ourselves, and take into account a propensity to draw conclusions rather from possibilities and the imaginary fitness of things, than from observation and fact, we need not be surprised at the prevalent disposition to dispense with, or at least greatly curtail those preliminary modes of mental exercise which discipline the understanding and regulate the judgment. We need not be astonished that by many persons the information which I would call practically useful will be denominated speculative ; such, for instance, as mathematical and metaphysical reasoning. These strengthen the youthful intellect, and a mind thus prepared will be more powerful, more attentive, more patient, more discriminating and more expert.

The attendance upon a single course of scientific lectures by a person thus prepared will generally be more beneficial than the same course *thrice* attended by the same person without this previous exercise.

Medicine is a more extensive school than that of the other professions ; here we need absolutely a knowledge of the dead languages. It is in those languages that we are enabled to converse with the great fathers of our science especially, and the youth who expects to walk in the path of scientific investigation, will find

that training here is far from wasted time, or labor spent in vain, for in after years he will find that the labors of a few years in his youth is in fact the economy of a large portion of his subsequent life, and the greatest aid to his accuracy in practice. For him a large part of what is hastily called speculative, is the basis of truly practical knowledge. I desire to be understood as holding that, in each of the learned professions, and in that of medicine, in particular, the usual classical education is an exceedingly useful preparation for the professional study *itself*, and that what is so often pronounced unnecessary literature, is, in reality, absolutely and truly practical.

During centuries the way to the temple of literature has been through the halls of the ancients, and the languages of the republic of science have been principally the Greek and Roman, especially and more generally the latter. They who have been eminent in these great departments of knowledge were made familiar with these tongues by their early and assiduous labors amongst the classic authors.

We have occasionally, it is true, beheld some gigantic warrior, careless of discipline, untutored in tactics and despising evolutions, rush boldly into the fight, and spread destruction and terror for a time, but when the first emotion subsided, and his manner was observed, how easily was he overcome. The transient success which he obtained was the result of the mighty force with which he had been gifted originally, and the unusual mode in which he made his assault ; but suppose he had added to his natural prowess the advantages or discipline, how much more formidable would he have been ? The war cry of such a combatant seems to furnish a practical illustration of the soundness of his cause, yet I would ask to what are we to attribute that suggestion which is continually urging the observer to make considerable allowance in favor of such men, *because* of their want of regular education, if it be not a universal concession that the mind thereby prepared is made therefore superior ? For why should anything be conceded because of the neglect of a sound education, if the want of that disciplinary course be not a manifest disadvantage ? Besides the energizing influence of this early discipline upon the mind, the acquisition of such an education affords such pleasing and profitable recreation in after life.

I can recall to mind men who, even in their old age, found in classical literature that recreation which improved, while it relieved, the mind—men who could feel emotion at Cicero's eloquence or melt at Virgil's pastoral strain. In exercises like this the understanding is informed, the memory is strengthened and the mind is relieved. In the midst of our struggles through this changing life, it is well to have some literary scenery, which will be to us "as a city of refuge" until we shall be able to recruit. The effect will be like that described by Moore :

> "Let fate do her worst; there are relics of joy,
> Bright dreams of the past, which she cannot destroy;
> Which come in the night time of sorrow and care,
> And bring back the features that joy used to wear."

There is no "royal road"—arduous study, along the same path (in the field of classical cultivation) trod by all immortal authors of the past. Pope says ;

> "'Twas from learned Greece, which her useful rules indites,
> Where to repress and where to indulge our flights;
> High on Parnassus' top her sons she showed,
> And pointed out these arduous paths they trode."

It is no waste of time for the young man to equip himself to the fullest extent possible before entering upon his career as a medical student—it is time saved.

I have touched upon classical education as of great importance to the literary character of our professional men, not so much from an expectation to escape the insinuation that this "higher education," as it is sometimes called, has not been attained by all of us in our preparatory course, as it is with the expectation that you will devote all your efforts to its attainment by the rising generation, and that we may all insist upon carrying out the resolution passed at our last Convention, offered by Dr. Cobb, in which we pledged ourselves, by unanimously adopting said resolution, "to take no young man into our office to read medicine who did not possess the requisite preliminary qualifications." Indeed, it was reflecting upon the great advantages that would result from this advanced step, if the resolution was strictly adhered to, that led me to select this subject for consideration. The prospects are fairer now than ever before that the standard of the medical profession in North Carolina, indi-

vidually and collectively, will be greatly advanced in the near future. We have the greatest encouragement. The law-makers of our State have at last shaken off their long-existing apathy and opened their eyes to the necessity of recognizing our unselfish claims in the cause of humanity. Let us now feel that State pride which will cherish every institution of learning within her borders, so that, as she rises in the scale of political and commercial importance, she may also be elevated in scientific and literary fame. And this should be our legacy to posterity—inform the youthful aspirant for medical honors "'tis education forms the common mind." Remember, too, that we must keep pace ourselves with the progress of the times. Human science, like human labor, is progressive, and the peculiar duty of the physician, like that of the workman, is to exert himself for the improvement of what he received in a state of imperfection; for while primary equipment is necessary, continual study is equally essential to the physician who expects to improve himself, or to advance the science of his choice. Are we doing this? I fear there is too much reason in the charge that we are not. One evidence of our culpability is seen in the almost total absence of original communications to our valuable State JOURNAL. With a very few exceptions, the editor's own fertile brain supplies the original matter, and the neglect of his co-laborers in the State to assist, compels him to make selections from foreign writers. True, they are good selections, but why not furnish him with State productions, and let him select from them? Have not our members the taste, the pride and the ability? Then why neglect the encouragement of literary culture in those coming after them? Some of this apathy may be attributable to timidity, some to fatal laziness, and perhaps much of it to want of taste for literature generally. This latter is what I would wish above all things to see changed, not to "*cacœthes scribendi*," but to a habit of writing their views correctly, as well as to increase the desire for reading; and I am free to say that *the neglect of a thorough preparation for the study of medicine is the great cause for this want of taste.* The mind has become easily satisfied, and, though the field is ample, the taste is wanting. Suppose this state of things becomes universal in our Society, where will we find ourselves in a few decades? Excelsior must be our motto, and who will undertake to say what another half century will unfold?

And in order to further advance our position as a literary association in the eyes of the world, as well as to improve our own minds as physicians, and increase and intensify our interest in the noble calling of our choice, I would most earnestly recommend that a special and separate section on Medical Jurisprudence, or, more properly, Forensic Medicine, be created, and a chairman appointed at each annual meeting, as is done with other branches.

The reasons for this movement, I think, are obvious. We see almost daily reports of great criminal investigations going on in the country, and we are too frequently put to the blush at seeing some of our profession staggering under the heavy blows of some astute attorney, whose whole store of medico-legal lore consists, perhaps, in what he read the night before in Beck, Taylor or Wharton and Stillé. And in many instances we see, also, that there is very little agreement amongst the experts themselves—wide differences, perhaps, upon some physiological aspect of the problem. We need uniformity, an unmistakable standard, based upon scientific principles. Until such a standard is established, and such progress made, the public may expect many flagrant defeats of justice. At present there is too little thought given to this subject by our profession.

It should be remembered that forensic medicine, or the application of medical knowledge to the purposes of the law, is a distinct branch of medical science, and does not properly include hygiene or sanitation, but embraces all those questions which bring the medical man into contact with the law. Its history is comparatively modern, for while we have to start with the earlier periods of Greek civilization to find a distinct and organized profession of medicine, we have only to go back to the beginning of the present century for the *first* lectures delivered on forensic medicine, which was in Edinburgh in 1801. In 1822 there was not in the English language a single treatise on medical jurisprudence, but since 1829 there has been an abundant crop of literature on the subject. Christison's admirable treatise on "Toxicology," Taylor's elaborate works, Guy's "Forensic Medicine" (English), while American has not been behind." Wharton and Stillé's Manual" and "Wormley's Toxicology" are standard works. The high position which our profession occupies to-day, in every other respect, and the bright prospects in the future of its ranks being filled by the best mate-

rial, should encourage us to make every effort to keep pace with every literary organization in the land; and yet there are many of us who could not, to-day, undergo the crucial test of the witness-stand and come away with credit to ourselves or honor to the profession; or, what is equally important, with such benefit to mankind. Why is it? Is it because we are deficient in education, intellectual ability, natural endowments, or professional attainments in our ordinary practice? or is it not simply because we have paid little or no attention to medical jurisprudence as a *distinct* science, and have therefore allowed ourselves to fall an easy prey to the sharp interrogatories of the bar. This should not be. We should attain to such a thorough knowledge of this important branch of our profession, that at any time, when called upon, we could not only enlighten the bar, but the bench, and be competent to overshadow the flimsy excuses for crime, upon the one hand, or guard and shield the innocent upon the other.

I have no doubt of the practical advantages that would accrue from this step. The chairman of this section, in his report, could not only give statistics of important cases of recent occurrence, and the medical testimony, with its special bearings, but also could select for his subject some of the deadly poisons and discuss the points of distinction between symptoms produced by these and those produced by disease, or the various character of wounds, would afford an ample field; or infanticide—a crime altogether too frequent in our country, and too frequently unpunished for want of clear medical testimony—any of these subjects in his report, accompanied by the highest medico-legal authorities upon their judicial aspects, would call the attention of the members annually to this branch, and thus enable them to familiarize themselves with a matter of such great importance to the public and to their own honor and standing. I would therefore repeat the recommendation for the establishment of this section separately.

Again, I would suggest that our code of ethics be published with the Transactions and distributed to all members of the Society.

It is an important matter that we should keep our rule of action before us—the one rule for the guidance of all—else how can we expect true ethical conduct in those who have not even read our law on professional etiquette. We must make ourselves familiar with our professional limits, remembering that while we are "separate as the waves, we are one as the sea."

One word now to the younger members of our Society, already at work, but just at the threshold of practical investigation and restlessness. I would ask them why should not North Carolina indulge and cherish the holy ambition of placing the standard of medical science on as lofty an eminence as that of any of her sister States? This State has held high rank for the literary attainments of its professions—surely she ought to complain of her sons in one of the grandest of all professions, if, recreant to their patriotic and literary reputation, they degenerate from their fathers, and slothfully permit themselves to be surpassed by those of any other State! I will not believe it, but rather cherish the expectation that they will arouse to exertion, and in their own favored State, under their own serene sky, they will generously climb the hill of science, and cultivate to its very top, crowning its summit with all the improvements pertaining to medical skill, which will not only delight the eye by the richness and delicacy of their color, but will gratify the taste by the excellency of their fruit, and send through leagues on every side an odorous perfume fitted to regale the home of her children and attract the praise and admiration of the stranger!

THE HÆMOSTATIC PROPERTIES OF AMBROSIA ARTEMISIÆFOLIA (RAG WEED).

By J. H. Hill, M.D., Goldsborough, N. C.

(Read before the Medical Society of North Carolina, at Durham, May 19th, 1885.)

Mr. President and Gentlemen of the Medical Society of the State of North Carolina:

At a meeting of the State Medical Society held at Tarborough in May, 1883, I read a paper on the hæmostatic properties of "Rag Weed (*Ambrosia Artemisiæfolia*"), which was referred to the Committee on Publication. As the paper did not appear in the published Transactions of the Society, I applied to Dr. Wood to have it returned to me. He stated that through some inadvertence it had been lost, and requested me to rewrite it, with any additional evidence I might have of the value of the remedy. I failed to do so at the time, but within the last few weeks having had occasion to use it in two or three cases, and mentioning the fact to Dr. Wood, he again requested me to write an article on the subject.

Ambrosia Artemisiæfolia (rag weed, carrot weed) is, as far as I know, an indigenous annual weed, always following a wheat crop, flowering about the middle of August. Not professing to be a botanist, I cannot give a clearer description of it. Dr. Francis Peyre Porcher, in "Resources of Southern Fields and Forests," says: "*Ambrosia Artemisiæfolia* (rag weed) grows in cultivated lands and pastures; collected in St. John's, Charleston district. The plant is used in fevers in Maryland as a substitute for quinine; a tincture is made or the juice given with whiskey. It is very bitter, and is thought to be useful." It is used as a common domestic remedy for nose-bleed, epistaxis, in Rowan county, where I first heard of its properties and witnessed its effects, as long ago as 1857, where I frequently saw it used to arrest hæmoptysis in the case of a negro carriage-driver of my father-in-law. This negro was a frequent sufferer from that complaint, and always carried a portion of the weed in his pocket, and being attacked would take a chew of it, swallowing the juice, with almost immediate relief, and was told that he had thus used it many years. I also saw it used as a

styptic and applied locally in a case of violent epistaxis, in a boy of 10 or 12 with immediate effect, when I thought, from the volume of the hæmorrhage, the posterior nases would have to be plugged. As I stated before, it was the common domestic remedy through that country for these complaints, as I was informed by Drs. Whitaker and Summerell, the latter of whom confirmed my statements at the Tarborough meeting.

In my previous paper I referred to several cases in which I had used the remedy, but more particularly to the following: On the 23d of September, 1882, I was called to see a child, son of Mr. William Smith, aged about 6 years. Found him bleeding from the nose, gums and bladder, passing a short time after I arrived nearly a pint of what I took to be pure blood from the bladder; skin tallowy, and the legs and body covered with spots of purpura, from the size of a pin-point to that of a silver dollar. He had been bleeding for several days, and had been seen by two other physicians, who had given him ergot, lead and opium, aromatic sulphuric acid, etc.. etc., with no good effect. I was also informed that two sisters of the father had died from hæmorrhage, and that the family all had difficulty in arresting what to others would seem trivial bleedings. I thought it a very bad case, and so informed the father, but told him that if I could find a certain weed I knew of, I thought possibly I might arrest it. Being a stranger to the family, I saw that they looked upon my proposition rather with suspicion and hesitancy, but at length one of them agreed to go with me and look for it. I soon found a bunch of it in a fence corner, and gathered a handful of the leaves, which I put into a cup of boiling water and made a strong tea, of which I gave a large tablespoonful to the boy, at first every half hour, and then at longer intervals. I plugged the nostrils with cotton saturated with the per. sulph. ferri. Within fifteen minutes the effects of the medicine were seen. The oozing from the gums ceased, there was none from the nose, and, as I was afterwards informed, when he made water it was only slightly colored by blood. I remained with the case four or five hours, and when I left prescribed mur. tr. ferri in 3-drop doses in a glass of water three or four times a day. The next day the father came to town, called at my office perfectly delighted, paid his bill, and since then my reputation has been made in that neighborhood, although I did cure the case with "yarbs."

Since then the boy has been perfectly well, except that occasionally in the spring there is a tendency to bleeding from the nose—always arrested, though, at once by the rag weed, of which the father is always sure to have a good supply on hand.

On the 5th of March, 1885, I was called hurriedly to see Mrs. W., of Goldsborough, before breakfast. Her husband came for me very much excited, stating that his wife was bleeding to death, the blood just streaming from her mouth; that she was the patient of another physician, but that he was absent in Washington at the inauguration. I put in my pocket a package of rag weed, of which I always have a supply, gathered when it is in bloom, and went with him at once. I found the lady propped up in bed with a chamber-mug by her side nearly full of blood, which she was spitting up by the mouthful—evidently a case of hæmoptysis. I pulled off a portion of the weed and requested her to chew it and swallow the juice while I was having a decoction prepared, which, as soon as it was cold, I gave her in wineglassful doses, assuring her it would do the work. In an incredibly short time the hæmorrhage ceased. She was directed to continue the medicine at intervals of three or four hours. I called in the evening and found her comfortable—no blood except when she would cough up a few hard coagula. Called the next morning, found her up, eating a hearty breakfast of beef steak and buckwheat cakes; no sign of blood. A day or two afterwards she sent to my wife and asked her please to send her a little of the "weed," she would not be without it for anything. I put her on the tincture of iron and she has had no trouble since.

The last case to which I shall call attention is a wound of the leg, referred to before. Mr. Wright Smith, to whom I was called on the morning of the 16th of March, 1885. His brother came for me and told me that he had been bleeding for four days, and although another physician was attending him, he wished me to go and see him. I got to the house at 3 o'clock P. M.; found my patient a man about 30 years of age; had always been in good health, except an attack of bronchitis a year before; had complained for a week or more of debility, pains in the limbs, weariness and disinclination for work and shortness of breath. His physician, he said, had diagnosed his trouble from the liver, and had given him calomel, followed by quinine; that four days before

he had commenced to bleed from the nose and mouth; had sent for physician, who had given him ergot and aro. sulph. acid, which he was then taking, but as it had no effect, his brother had given him some of the rag weed and advised him to send for me. As the little that he took seemed to do him some good, though he was afraid of it and would not take much, he consented to send for me. I found the blood to come from his nose, tongue, gums (which were very spongy) and throat. When I drew down his lip to examine the gums the blood oozed up in such quantity as to nearly fill the mouth. I gave him a chew of the rag weed and had a cupful of the tea made; as soon as this was cold I gave him a wineglassful every hour. After chewing the first mouthful there was literally no more bleeding from the gums or tongue. As he lived eighteen miles from Goldsborough, I staid with him all night. He passed comparatively a comfortable night. Before I left the next morning he had sat up and eaten a hearty breakfast, with the barest sign of blood when he would clear his throat, which he said came from the coagula in his nose. I will mention that while I was examining him I requested him to let me see his legs, which I found, as I expected, cove ed with spots of purpura. He said that he had not seen them before, and did not know how long they had been there. I put him 3-drop doses of tincture ferri three times a day. Five days afterwards his brother came to see me, perfectly satisfied, since there had been no bleeding since the night after I left, when he had blown the coagula from his nose, there was slight oozing, but the rag weed soon caused it to stop.

Now, Mr. President, having detailed the virtues of one of our indigenous remedies, I would like to say a few words on a subject in which I take much interest, although I may lay myself open to the sarcasm of being an "old woman doctor," a "yarb doctor," etc. But how many of the common domestic remedies of our country are valuable! I myself could name a good many, and I doubt not but that every gentleman present has some remedy in daily use which is not to be found in the materia medica—some remedy which he knows from experience is valuable, although he may have gotten it from an old woman, maybe an old negro. How many of us during the war were forced to use these common remedies, and with what joy we hailed the advent of that valuable work of Dr. Francis Peyer Porcher, "Resources of the Southern Fields and Forests." Suppose each

member of the North Carolina Medical Society should contribute a short paper giving his experience with some home remedy, trifling, perhaps, in itself, to him, but collectively of what incalculable value to the profession, particularly so to country practitioners.

Since writing the above I have seen the following extraordinary communication in the NORTH CAROLINA MEDICAL JOURNAL from Dr. W. C. Galloway, of Snow Hill, Green county, North Carolina:

"I have had three severe cases of hæmorrhage of the nose to arrest by plugging the posterior nares with sponge. Rag weed, that Dr. Hill extolled so highly at the Tarborough Convention, did not stop them, nor anything else, short of plugging; though, in justice to the dear, lamented, potent rag weed (do give me a better and a more scientific name for the homespun plant), I must confess that it seemed to do some good in one case."

Why dear? why lamented? I suppose that the doctor must be one of those who can see no good thing in any home remedy, who is afraid to call any medicine by its common name for fear of derogating from the dignity of the profession—who would not call a scratch a scratch, but "merely an abrasion of the external cuticle," as a chill and fever "a tertian or quartern malarial intermittent pyrexia—who believes with Bacon, that "They be the best physicians who, being learned, incline to the traditions of experience, or, being empirics, incline to the methods of learning." Now, I hold, with the same great man, that "He who hath learning, be it ever so little, and holdeth it back from they who have less, is as unprofitable a man as the most ignorant that lives." Did Dr. G. use the remedy proporly? Did he gather it at the proper time? Did he give it in sufficient quantity? I should like really to know, though, why he calls it dear, why lamented. I hope the doctor will be satisfied with the officinal name, "Ambrosia Artemisiæfolia," which I have adopted in this paper, after Porcher and Wood. For my own part I am willing to call things by their common names, believing that "the rose by any other name would smell as sweet."

Just here let me report the following case: On the morning of the 12th of May, at 8½ o'clock, I was called to see Ellen Dosmond, aged 8 years. I got the following history from the mother; Had recently removed to Goldsborough from Norfolk, Va. For the past five years had been subject to frequent spells of epistaxis, for which she had been treated by four physicians of Norfolk, frequently requiring the

plugging of the posterior nares. Any slight cut would bleed excessively, and they were afraid to have her teeth extracted, she bled so. Two years ago had her ears pierced for earrings, and the hæmorrhage was so great they feared she would die. I found a stout girl, well grown for her age, but the complexion muddy, face puffed, no purpuric spots, though at times, her mother said, her face was covered with purple spots the size of a pin's point. She was bleeding freely from the left nostril. I gave her a potion of raw weed to chew, and had a strong infusion made, of which I gave her a tablespoonful every half hour. I made a plug of some of the weed and inserted it into the nostril; in fifteen minutes all bleeding had stopped. I called again at 10½ o'clock—no bleeding; at 1 o'clock—no bleeding. At 6 o'clock the grandfather called to see me, and said the child was up and playing about, and has continued so ever since.

A CASE OF APHASIA.

By Julian M. Baker, M.D., of Tarborough, N. C.

(Read before the Medical Society of North Carolina, at Durham.)

Gentlemen of the Medical Society of North Carolina:

I desire to report a case of cerebral injury, followed by hemiplegia, epilepsy and aphasia, in which the cerebral lesian was definitely located, and the mental impairment resulting therefrom closely recognizable. The case is of interest from the fact that it locates with as much certainty, as ne isolated case can, the faculty of articulate language, and demonstrates the fact that very slight injury of the cerebral structure at this point is sufficient to destroy entirely the power of articulation. It corroborates, too, the more recent writers on the subject, proving the conclusions of Gall, Spurzheim and those advocates of Phrenology, as a science, to be erroneous.

A strong, vigorous negro man, 24 years of age, previously in perfect health, a farm laborer, received a lick over the head with a meat hook; immediately became unconscious, and suffered from concussion for twenty-four hours thereafter; after which consciousness returned, but with the inability to articulate.

The patient came under my charge with this history a month after the blow was received. At that time the scalp wound had entirely healed, the cicatrix indicating that it had been not more than an inch

long. He presented a dull, morose, languid, sleepy appearance. He understood everything said to him, and, strange to say, seemed to appreciate any humorous allusion more than is ordinarily the case in health. His countenance would suddenly become aglow with mirth, and as suddenly lapse into the melancholy aspect it was before. He noticed everything which transpired around him, expressing his approval or disapproval by the motion of the head. His appetite was good and had been since the symptoms of concussion disappeared; bowels regular.

Upon physical examination the wound was found as above, and located on the line of the coronal suture on left side, and about two-thirds of the distance from the crown of the head to the point of union of the coronal and squamous sutures. The point was indicated by a diagram. I have attempted to indicate the sutures by the serrated lines; in other words, to show the different portions of the cerebrum lying beneath the different cranial bones. The point of injury from actual measurement of the external parts was found at this point indicated, which will be seen to fall within the third frontal convolution of the left side. There was right hemiplegia, with loss both of motion and sensation. The tongue was protruded normally, with no deviation whatever, to the paralyzed side. Deglutition was not interfered with. He had several epileptiform convulsions in the few days following his coming under my care, with a constant daily increase of temperature and decrease of pulse rate; so that at times the temperature under the tongue would indicate 103° F., with a pulse of not more than 75 or 80.

With these facts presented, the diagnosis was made of cerebral compression with injury of brain membranes and brain substance at the point where the blow was inflicted, and following such diagnosis it was determined to remove the offending material. So, with the assistance of Drs. Williams and Floyd, of Tarborough, and the trephine applied, a button of bone about three-fourths of an inch in diameter was removed. This done, the weapon used was found to have passed through the skull bone, through the dura mater and penetrated the gray cerebral matter about the sixteenth part of an inch deep and wide. In fact, it hardly passed through the membranes. The character of the wound was just such as an ordinary pocket-knife would inflict. The bone was depressed and a slight hæmorrhage had resulted in the formation of a small clot

around the wound in the dura mater. The projecting spicules of bone were removed, all the debris washed away, slight pressure on the dura mater with the finger, forcing such portions of the clot as were between it and the brain through the opening, where it was washed off with sponges.

The wound in the brain and membranes was left as it was found; the scalp thrown over the opening in cranium and the edges united with silver sutures; a sufficient opening was left for drainage and a dressing of carbolized gauze applied. During the night there was a rise of temperature and pulse and two convulsions. On the following morning Chamberlaine's coil was applied to the whole head, and a constant stream of ice-water at temperature of about 45° kept running through it. Except this no remedy whatever was used. The patient continued to improve after the coil was applied, so that on the fourth or fifth day after the operation, on my entering the room, he arose from the bed, and, grasping a chair by the bottom round with the previously paralyzed hand, raised it in the air, but still unable to articulate, simply shook his head and smiled. His appetite and bowels continued in good condition, and there was a very satisfactory recovery from the operation. All signs of paralysis gradually disappeared. The power of speech not returning in like ratio, but continued for several months; gradually, though, the aphasia and aphonia gave way to a condition of amnesia, and this a year afterward had entirely disappeared, his health and speech being as good as ever, he being able to follow his avocation.

The wound made in the cranium has entirely closed with new bone, so that the last time seen by me I could strike at that point with a percussion hammer and find the resistance as great as any other portion of a negroe's skull.

I report this as a case of aphasia, as a result of traumatism, and do not consider the loss of speech due at all to paralysis, but to the impairment of the functional activity of the cerebral centre presiding over articulate language, and it corroborates those who locate this centre in the third frontal convolution of the left side. In this case the injury being to the postero—superior horn of the convolution.

I will not go into the case further, but refer those who take an interest in such matters to the various authors who have written on this subject in the last few years. I simply offer it as my quota toward establishing the truth of their observations.

SHALL WOMAN PRACTICE MEDICINE?

Annual Address delivered by Dr. L. Julien Picöt, before the Medical Society of North Carolina, at Durham, May 20, 1885.

Gentlemen of the Medical Society of North Carolina:

Since the revival of learning, and in isolated instances, even prior to that epoch, each revolving century has witnessed a new departure in politics, in war and in science.

The buried past is accredited its maximum of glory, and over its grave Progress unfurls her standard and shouts her battle cry, "Onward!"

The creed of the Gallilean fishermen has not escaped the inundation of the inrolling wave. Scientific research is still on the alert to find the missing link in the chain which must disconnect man from his celestial origin and give him a status with the beasts of the field. The rock-armed hand of Hugh Miller delivered a crushing blow, and for a while stayed the Development Hypothesis. But, like Banquo's ghost, it will not down.

It is proper and in good taste for men to combat human theories and to improve upon human inventions. In this way the matchlock has given way to the needle gun, the Culverin to the Armstrong, the giant Nile reed, through whose tube the Chaldeans attempted to read the mysterious movements of the orbs which gem the robe of night, to the powerful telescope of the modern observatory; the wooden hulls of monster ships to turretted and iron-clad monitors, military roads, along which marched the weary Roman legions, to those of fire, named by the French so aptly, over which rolls a motive power with force sufficient to draw in its wake over plains and mountains and rivers, with unflagging speed, safety and dispatch, whole armies, with all the requirements for bivouac and field.

The carrier-pigeon coos upon her nest while the electric current has become the postal courier of the world. Good old Ambrose Paré's simple ligature has spared the lacerated flesh and torn limb the additional torture of boiling oil or heated iron to stop the flowing blood. But when God speaks it were best for man to be silent than attempt to reason on "man's disobedience and the fruit of that forbidden tree which brought death into the world and all its

woes." And to this pseudo-scientism, yclept Development or Evolution, we know no more stinging rebuke than that contained in these humble lines:

If we, as Mr. Darwin says,
  From monkeys are descended,
Old Time, in changing things, hath not
  As yet the matter mended.
Descendants of our ancestors
  Have no such times as they,
Who had no rent of house or tax
  Of government to pay.
No tailor bills came in—
  Dame Nature clothing gave,
And freaks of fashion did not make
  Of monkey girl a slave.
So the olden way 's the happiest way,
  The new condition fails;
And, Darwin, if you can, my boy,
  Just give us back the tails.
No hurrying out of bed had they—
  No bolting breakfast down—
No hasty walk or ride in fear
  Of some old patient's frown.
The lady monkey sat not up
  'Till day the night did rout
In waiting for the store to close
  And let her husband out.
They had no votes, 'tis true, but they'd
  No banking count to keep,
And o'er Bain Brothers cash account
  They never had to weep.
So the olden way 'is the happiest way,
  The new condition fails;
And, Huxley, if you can, my boy,
  Just lengthen out our tails.
They had no fashion's promenade,
  Where beauty's feet could stray;
But then the old boss monkey had
  No Doctor's bills to pay.
They had no wine, the monkey's young
  Through night to keep a storming;
They saved thereby (you know yourself)
  A headache in the morning.
A peaceful race were they, who ne'er

To war's appeal did fly:
They saved thereby occasions for
A Joint Commission High.
A smarter race were they than that
Which from them hath descended,
And Time, by changing things, hath not
As yet the matter mended.
For the olden way 's the happiest way,
The new condition fails;
So, Ingersoll, if you can, my boy,
Please give us back the tails.

Analogy, so say the writers on Logic, is an unsafe ground of reasoning, and still comparison is nearly allied to this kind of reasoning, and by comparison we attain all knowledge. Unless the authoritative precepts of Holy Writ be set aside and its teachings ignored, we take it for granted that any deflection from its lines of precept lead to pernicious results.

Say what you will about the fitness of things, and that the enlightenment of the age demands change, reform and advance in all its departments, yet the eternal truths promulgated from Sinai's top still must underlie the stratum of society. For instance, the great teacher, even Christ, lays great stress upon becoming shame and modesty in woman. Now, in the modern school of divinity, religion is found to be all æstheticism, for a reverend writer tells us of the drapery of holiness that surrounds the unveiled representation of a naked female form. But then, he alleges, it should be remembered it is a work of art, and this makes the magical difference between it and those vulgar imitations which draw upon their exhibitors the notice of police officers and grand juries. It is a creation, a birth (to use the lingo of the school)—it is a reproduction—it is the soul of the artist transformed to the marble—it is the pure ideal. But in the use of this transcendental dialect we forget the peculiar circumstances under which the child was born. It would be exceedingly gross to call to mind the well-known fact that it had for its sire the creative ideal of an artist not at all distinguished for spirituality, and derived its maternity from the actual of a disrobed Italian courtezan standing before him. We would throw wide open every legitimate door for woman's emancipation from the thraldom that has hitherto cramped her efforts or her energy to attain success

in life. Yet there is a sphere in which she must move, or she is unsexed and becomes an object of contempt and scorn.

It is not every girl who can play the role of Taragossa's maid without exciting the ribald jest and incurring the blight of suspicion, or with Joan of Arc, clad in habiliments and riding like a man, go forth to battle and escape without a wound upon her chastity. Tenobia led the hosts of Palmyra and became the mother of an offspring across whose shield was affixed the bar sinister. Cleopatra marshalled the swarthy hordes of Egypt, and enticed the lord of the Roman world from the bed of his legitimate spouse. This question was freshly and practically illustrated recently:

During the session last summer of the Equal Rights Convention, a strong-bodied woman, with strong-minded views, entered a crowded street railroad car. An old gentleman rose to give her a seat, but asked:

"Be you one of those woman righters?"

"I be."

"You believe a woman should have all the rights of a man?"

"Yes, I do."

"Then stand up and enjoy them like a man."

The celebrated Mrs. Dr. Mary Walker, clad in tight trousers, frock-tailed coat and jaunty beaver, lately called upon Miss Cleveland, the Lady of the White House. She was accorded a brief interview, for the refinement of the lady was somewhat appalled at the sturdy bearing of the nondescript.

Very soon after the departure of the she doctor a Miss Man called to pay her respects. After a short conversation, Miss Cleveland remarked:

"Let me congratulate you, young lady, for I have just seen a woman who is anxious to be a man, and in you I see a Man who is content to remain a woman."

And this pithy remark strikes the key-note of the situation. There must be a dividing line between trousers and petticoats. Let us attempt to draw it.

This is a very peculiar age in which we live. No theory, however wild, but has its strong and earnest supporters. The old proverb, that everything is fair in war, finds its realization in free America and autocratic Russia. In the former the signal is given, and Westminster Abbey, Tower of London and Parliament Houses

are blown to atoms by dynamite, involving in terrible death helpless infancy and hoary old age; in the latter the mandate issues, and the deadly dagger is buried in the heart of royalty. This resembles not the high emprise and gallant bearing of the chivalric knight, either in the lists of Ashley or the bloody field of Ascalon. Woman has come to the front in this death-dance of blood, and plays the role of assassination. She is not content to cull flowers in the literary world, but enters the political arena, and in offering herself as a candidate for the Presidency, presents a target for scurrility and defamation. I pity the man who leads her to the hymenial altar, and I am sure upon his gravestone will be read this very mournful inscription:

As father Adam was by woman fooled,
A case that's now too common—
Here lies a man by woman ruled—
The devil ruled the woman.
And who could expect any better?

In this modern march of advance a considerable change has taken place as regards the marriage sacrament. Free-loveism has its advocates, strange to say, principally among women. We are free to confess that we can see no very great difference between a harem of husbands and a harem of wives, and if there be any, the palm of decency must be accorded to the latter, as impregnable walls exclude their shame from public gaze, while the former parade the streets with the insignia of their infamy branded on their brows. There are isles of the sea, and a few circumscribed districts, both in Asia and Africa, where a plurality of husbands prevail, and we would be glad to see the free-loveites make their exodus to those favored regions, and no longer maculate the robe of American womanhood with their mildew breath of prostitution and licentiousness. It does really seem as if woman never departs from her legitimate sphere without exciting contempt or incurring suspicion. She offers herself as a warrior and fails; as a politician and meets a similar fate; as a preacher, and even the Quakers blush for her, as with uncovered head,

She tells in a piping voice of Heaven and Hell.

As a last resort for notoriety, she presents herself for medical and

legal honors. The bar, of course, presents a tempting field for the display of woman's loveliest attributes. All of our criminals are hightoned gentlemen—all our trials at law purely civil. No man in this beautiful age stands arrayed for seduction or murder, but merely for not wearing cravats and pants *a la mode.* In the keen encounter of counsel no disgusting details, no low and dirty actions are brought to light, no words or language unbecoming a lady's ear are spoken by willing or wrung from unwilling witnesses. All the phraseology there employed is called from the Dictionary of Poetical Illustrations, and defendants and witnesses are merely unfortunate maidens, or sweet young gentlemen to be tried in the high court of love for an incorrect interpretation of a flowery emblem. We do not for a moment question woman's capacity to comprehend the technicalities of the law or the mysteries of anatomy, nor do we question the capacity of a gourd's holding water, only from long use and saturation it becomes rotten from watery contact. There is not a man in this audience, not a father in this State, who would not blush to hear his daughter plead for the acquittal of a seducer. His true manhood would be shocked, and he would hide his head in shame. Beautiful picture—refined and delicate lady talking billingsgate with thieves, burglars and murderers.

Let us shift the scene of her labors. How does she appear in the dissecting room, clad with oil-cloth aprons and armlets, knife in hand, cutting the dead man's flesh under the ghastly glare of gaslight? To every refined mind it is an appalling sight. Eugene Sue's description of the Ghouls visiting the deserted Roman Amphitheatre in quest of human remains left by the wild beasts, is scarcely less revolting. Novelists have made out women actors as angels of grace, but these are creatures of fiction. Will it be urged by reasonable people that the medical men fear her as a competitor in their profession, in any part or division of the profession?

She has wit enough to grasp all the diseases incident to frail mortality. She should have, at least, for she "first brought death into the world and all its woes." She has courage enough, for nothing more delights an unsexed woman than blood and agony. In the gladiatorial combats the loudest bursts of applause rang from coral lips over the lists when the ensanguined tear of the vanquished soaked the sands of the arena.

Swinborne, in Fanstine, aptly hits off this abortion when he makes God and the Devil throw high die for their soul:

"Your naked, new-born soul, their stake,
Stood blind between,
And God said, "Let him that wins her take
And keep Fanstine."
But this time Satan throve, no doubt;
Long since, I ween,
God's part in you was battered out,
Long since, Fanstine.
The die rang sideways as it fell—
Rang cracked and thin,
Like a man's laughter heard in hell,
Far down, Fanstine.
A suckling of its breed you were—
One hard to wean—
But God, who lost you, left you fair,
We see, Fanstine."

She has beauty enough and winning ways enough to render herself agreeable in parlor and hall, by the bedside or at the festive board. Helen only had to show herself on the balcony of Paris' palace when the Trojans grew weary of the war, to infuse new energy and enkindle new courage to despondent hearts; and we are told that even old men—hoary-headed fellows—would gaze with stupefaction at her incomparable loveliness, and exclaim:

"No wonder such celestial charms
For nine long years have kept the world in arms."

She has diplomatic talent to any emergency, let alone the securing of patients in our carnival of death. The Pompadour had only to whisper to Louis XV—only to part those ruby lips, and raise that arm, matchless for grace and symmetry, to set men tugging at each other's throats from the snow-plains of Arctic Russia, to where the Ganges flows under burning skies through fields of wondrous verdure. At her command households remained in wild terror as the war cry of the savage fell from the midnight's gloom, and black men in Sierra Leone closed in the deadly tug of mortal hate:

She loved the games men played with death,
When blood must pour,
And the slain man's blood and breath
Pleased Pompadour.

We think every intelligent member of our profession would gladly welcome woman to a participation of its honors and profit, if we deemed her fitted by nature to battle with its stern, and at times rugged, realities. Exposure to the cold of winter and the glaring heat of summer ill befit her physical powers. There are preliminary steps to be taken by every student of medicine before admission to practice, and woman was not intended to handle crude anatomical material. Praise her (and you cannot praise her too much) for a tender and skillful nurse—for delicate assiduity and heroic endurance by beds of pain. There are bones in the human skeleton which have escaped nomenclature, and there are diseases which no womanly woman could treat or prescribe for.* There is a parallel running through entire nature, and the closer we study her laws and the more rigidly we adhere to their decisions, the grander and more beneficent will be the fruition of our labors. A departure from them inflicts terrible results. God in the creation of every plant affixed to it not a peculiar locality, but a certain latitude, where it should attain its most perfect development, and a transplanting to a less favored clime dwarfs its growth or compels hot-house culture. The giant spruce of Norway, that battles with the icy breath of Arctic gales, becomes a pigmy when transferred to the sunny slopes of Southern hills. On the contrary, the luxuriant beauty of tropic growth pales and withers when it no longer feels the fierce heat necessary to its life. In the creation of animals, save those by a wise Providence essential to man's comfort and civilization, He has assigned each his limited and narrow area; and by a parity of reasoning it is just to conclude that as He has given to plants and beasts natural boundaries, so He has allotted to man and woman each a peculiar mental and social sphere in which to move. Woman is equally unfitted to handle the axe, the hammer and maul of the strong and hardy laborer as she is to wield the warrior's sword or manipulate the surgeon's knife. Nor would

* I was at the Penn Hospital a few years ago, in attendance upon a surgical clinic given by Dr. Thomas G. Morton, of Philadelphia. There were probably three or four hundred students present, a dozen or more of whom were female students from the Woman's Medical College. About fifteen or twenty minutes before the expiration of the hour Dr. Morton, who is a modest gentleman and a surgeon of high standing in Philadelphia, requested the female students to leave the amphitheatre. He wished to perform an operation not fit for female eyes.

modern advance confine her to the drudgery of manual domestic life. There are brighter and nobler things to be done in home-life than washing cups and cooking food. In the finer and delicate traits of intellectual beauty woman is immeasurably man's superior. In literature, in painting and in sculpture, if she does not rank with Byron, with Rubens and Angelo, she occupies a very lofty and commanding position. In poetry, she has ennobled song by bursts of tenderest pathos; in painting, she has transferred to the canvas her own sweet ideals of delicate finish and beauty; in sculpture, she has carved the Lover and Graces with incomparable genius. Say what you will, it is not in strong fortresses, in frowning battlements, in torpedo-boats, in iron-clads, in disciplined armies that a nation's greatness consists. Nihilism is gnashing at the heart-strings of Russia, and will ultimately overthrow its absolutism. The strength and greatness of a nation consist in the affection of the governed for the government, in the high moral character of its people, in their sturdy, manful independence, in a race of men who know their rights, and knowing, dare maintain them. Three virtues are fostered in the home-life, and woman is its presiding divinity. Rome did not degenerate from her high renown under the teachings of mothers and wives like Lucretia—it was only when the times demanded a Juvenal to lay the thongs of his satirical lash, when women had unsexed themselves and unblushingly paraded themselves in the walks of men.

Home, with mother presiding, is the birth-place of every noble and generous thought and action. Nowhere in the broad world are there more happy homes than in free and enlightened America, for nowhere have we a higher type of true womanhood. Home is the original institution for recreation. It was once in a garden, where there must have been quiet nooks and sleepy shadows. Brick walls are now used, because we need substantial materials between us and the tyrannical world. Home should be not only a shelter, but a sanctuary. Mountains may be tunnelled and continents cut into one; inventions may apply all science, and art may fill the earth with its triumphs, yet the metamorphosis of women into men is a monstrosity that nature abhors. God intended women for wives and mothers. She doctors can never meet the full required duties. The saddest spectacle of the world is these peripatetic dead souls around us. Dead they are—dead in hope and heart—dead to

humanity, honor, God. See their footsteps! The grass withers and the flowers perish before them! See their foreheads! The sunshine is cold and pale upon them! The worms of the grave crawl over their hearts, and they dwell among us, cold and lifeless gravestones. If free government, if republican society, if prosperity, if schools, literature and religion should show their amplest and noblest fruits anywhere, it should be in beautiful, happy, joyous homes. It is not where man meets man, but where man and woman meet in the midst of loving children, that we are to look for the real import of human bliss, for the grandest development of womanly traits. Aside from these evils, there are other pernicious influences at work in our domestic society that threaten us with injury. One accustomed to observe the characteristics of the day, must have often noticed what a growing indisposition there is among women to submit to the care and duty of housekeeping, and how eager they are to throw them off. Time was when a home of your own was an object ardently desired, and hearts pledged to each other looked to the quiet companionship of its walls as the consummation of earthly bliss. A wife without a home was scarcely deemed a wife at all. Our old-fashioned mothers and fathers reasoned that if two loving souls united themselves in the bands of matrimony, a home was essential to rivet those bands firmly and closely around them. The honey-moon over, thither they went, and beneath their own roof found a genial occupancy for their time in the responsibilities of their daily tasks. And they were true to nature in the act, for married life demands, with the force of instinct, a home for itself. The heart of our country lives in its homes, and after all the rigmarole of woman's independence, the final test of institutions is in her domestic character at home. The world is an enjoyable place just so far as we render it tributary to our homes, and freedom is a blessing exactly up to the measure that we improve its privileges in forming ourselves after the divine ideal of noble men and women. Side by side stand the altar of liberty and the altar of home, and if Christianity has lighted their flames burning heavenward with steady strength of warmth and luster, let us not forget that it is from those flames that Providence brings the fiery swords which arm us for the highest achievements and our grandest victories. We study Providence on the great theatres of life, where men struggle, where nations rise and fall, where mighty

agencies convulse the old order of things and fulfill the decrees of mercy or vengeance. But there is nowhere such a Providence as watches over the hearts and homes. Not only are children born there, but likewise all that is great and good. It is the divine nursery for science and art, for philanthropy and piety. Without it the wealth of the whole world could not enrich a single hand, nor its splendors confer lustre on a single brow. Here men and women are made most sensible of the image of God, here they are trained and disciplined to lofty aims and vast endeavors, here they are chosen and called, baptized, anointed, robed and crowned, here Heaven originates events and ordains victories, here poets receive their lyres, and chieftains are girded for conflict, and rulers are inaugurated for the obedience of mankind. It is a topic common to pulpit and press, and outlasting all others, is never exhausted. Home has created more fiction, written more songs, recorded more biographies, uttered more maxims, inspired more eloquence, and even fills a larger share in the Bible than anything else. Men never weary of it. The fireside, the old arm-chair, the cradle of infancy and the couch of age, the family table and evening parlor, have an immunity from the familiarity that takes the edge from novelty and the common-place tediousness that robs the mind of its elastic tone. Love renews its youth every day, and home is renewed with it. The household incidents of every hour do more to keep thought and hope alive in the soul than all the excitements of enterprise and ambition, and, despite of care and anxiety, they send a steady stream of vigor through motives and sentiments that would otherwise decay. The beautiful things that never die out of men's memories—never become superanuated—never have their morning light darkened or their earthly freshness exhaled, are heavenly witnesses to the noble immortality of pure affections. Whatever else this frail and feeble world fails in, it never withholds its princely revenues from the heart of love, for God is love, and He has made home and all in it to express this truth, and enshrined woman as His minister there. Value is not a term coined like money, out of the materials of the earth; nor can the commercial exchange determine all questions of profit and loss. If the interests of our higher being are to settle the relations of all objects to us, then, indeed, it cannot be doubted that the sunshine and the rain, as they form the bow of God's promise in the sky, or the dew-drop, as it holds the firmament

in its bosom, or the apple-blossom, as it falls to the ground, may contribute as much to the real advancement of our race as the more ostensible means that promote our outward good. Man is much more than a creature of civilization. The animal in him is not only to be tamed, and fed and clothed, but the glorious spirit breathed into him by Jehovah is to receive its share of life from the economy around him, and mature itself for an awaiting destiny. Man cannot live by bread alone. If he were confined to that food he would soon fatten into a devil. These are therefore golden seasons for the soul, harvests to be gathered not into barns, vines that lay no purple fruits, and yet lay their summer foliage over richer gifts.

The wide world is for the race as a race, but home is a superadded world for the heart, and as Jehovah in His ancient temple would have an exclusive chamber, adorned with superior grace for His selecter dwelling, so does man desire his home sacred from intrusion, with woman enshrined in its inner temple as its tutelary saint, its genius and its earthly God!

REPORT OF DR. H. B. WEAVER, CHAIRMAN OF SECTION ON OBSTETRICS AND GYNECOLOGY.

(Read before the Medical Society of North Carolina, at Durham, May 19th, 1885.)

Gentlemen of the Medical Society of North Carolina:

When, at our last meeting in Raleigh, your kind consideration designated me as reporter of the progress in Obstetrics and Gynecology, we had no definite idea of the vast amount of research it required to present to this body of learned gentlemen a *readable* paper on this compound subject, between whose branches we fail to find any sharply defined line of natural division. Therefore, for convenience only, and not theoretically, we shall consider them somewhat separately.

CONSERVATIVE PROGRESS.

In reviewing the current literature on these two branches of the subject, if there be one idea more than another which stands out in

bold relief, it is the tendency of the profession towards *conservatism*, especially in Gynecology.

In a recent paper read before the Boston Gynecological Society by Dr. Bigelow, we find words so full of wisdom and so pertinent to this thought, that I shall reproduce some of them here. He says, in speaking of conservative gynecology:

"There are many reasons which conspire to make this otherwise invaluable specialty a matter of ridicule to many of our professional friends. In the first place, many men in country practice have delivered between one and two thousand women, some more and some less, without so much as knowing of the antiseptic rules which are now perplexing erudite societies, and without having to record a single case of puerperal fever.

"I know of two men, one in Maine and one in New Jersey, with such histories.

"Again, there are scores of general practitioners who are governed in their special practice by text-books, and they have lived to find that pessaries, as a rule, are humbugs; that intra-uterine injections are often fraught with much danger; that women may have dyspepsia and functional cardiac derangements without uterine troubles; oōphoritis, if treated with patience and persistence, may be relieved without recourse to surgery; and that many complaints of minor importance, which are the necessary outcome of any departure from a normal condition of a female sexual apparatus, may be overcome by the observance of simple rules, with recourse to elaborate interference; and a woman may be the happy mother of healthy children and enjoy an average share of good health, while carrying about with her a cervical laceration."

In Berlin, the metropolis of gynecology, we notice with satisfaction the impress already made on German literature by the gallant Landau, in his noble fight for conservative gynecology.

Says a noted writer in a letter to the *Journal of the American Medical Association* on this subject:

"I cannot help thinking that Dr. Landau's logic is conclusive, and that his conservatism is more scientific and of more permanent value than the unending round of operations that characterized German gynecology.

"I have heard it said that Americans were prone to resort over frequently to Emmet's operation, and I think there is truth in the

assertion; but compared to the way in which cervices are amputated, in whole or in part in Berlin, for lacerations and erosions, which I am convinced could be treated more rationally upon the conservation plan, our operations are only as drops in the bucket. It seems to me that at this pace the number of women in Berlin with normally preserved uteri must be extremely small; indeed, the students have a saying that there is not a woman living in the same street in which Dr. Martin's hospital is situated, who has an entire cervix uteri."

ANTISEPTICS.

There seems to have been a great reaction in the past year in regard to some of the antiseptic principles. That the adoption of *general* antiseptic rules in the treatment of wounds, especially in abdominal surgery, has been the means, chiefly, of the eminent success which has been attained by so many surgeons now admits of no question. But that Listerism has accomplished all that its author and his followers have claimed for it, seems not to be so nearly proven as was a few years ago. Indeed, the question has been reopened, and the war continues to rage with unabating interest on both sides of the Atlantic.

Lawson Tait's great success in abdominal surgery seems to be due to nothing more nor less than his careful attention to every detail in cleanliness and maintaining absolute control over his patients.

Quite a number, if not a majority of American surgeons have greatly modified their views in regard to antiseptics; the larger proportion of them preferring bi-chloride of mercury to carbolic acid. That this is a superior germicide to carbolic acid, there is no doubt.

OBSTETRICS.

We notice that the progress in this branch is characterized by more moderation and prudence than is exhibited in the department of gynecology.

A New Method of Diagnosis of Pregnancy in its Earlier Months.

Prof. Heager of Fribourg recognizes a peculiar softening suppleness and thinning of the inferior segment of the uterus, that is to say, the portion superior to the insertion of the sacroroterine ligaments, as a constant and positive sign of pregnancy. It can be easily recognized, not only when the uterus is resting as ordinarily, but when it is elastic

and soft. The softness of the part is such as to cause the question, whether the neck be not simply in contact with a pelvic or abdominal tumor.

He knows of no pathological condition which could give rise to this symptom.

The cause of this remarkable sign is that the inferior segment of the uterus becomes the thinnest, softest and most elastic portion. It results, consequently, that in practising the rectal touch with abdominal palpation, it is possible to feel this portion between the fingers with the characteristics it presents.

Cocaine in the Uncontrollable Vomiting of Pregnancy.

Dr. M. Weiss records in the *Prager Medicinische Wochenschrift* a case as follows:

A 28 year old woman being pregnant for the fourth time, was taken with vomiting three weeks after the last appearance of her menses (which was September 11th) and sought medical advice for its relief at the end of the second month. She was found to be much emaciated and anemic, keeping her bed for the past eight or ten days from debility and persistent vomiting. No food, even of a fluid consistency, would remain on the stomach.

No medicines seemed to give any relief, nutrient enemata could no longer sustain life, and the danger of death from inanition became imminent. November 7th the cocaine was given in the following prescription:

℞.	Cocaine mur. q. s. to make a solution in wine of	0.15
	Aqua	150.00

Sig. a small teaspoonful every half hour. The first dose had a slightly bitterish taste, which, from the benumbing of the sense of taste, was no longer perceptible. Some minutes after the sixth dose, the patient took three tablespoonsful of milk, which was well received and was not vomited. After the eighth dose, the patient took with great pleasure a small cup of bouillon with an egg—no vomiting. At 2 o'clock P. M. thirteen or fourteen teaspoonfulls of solution having been taken, the patient was found to be cheerful and bright. She then partook of white meat of chicken and a glass of claret. She thought herself well enough to leave the bed. In consequence of these favorable symptoms the use of the medicine was left off until

4 o'clock P. M., at which time the patient vomited again, a part of what she had taken. Its use was then resumed and kept up until 8 o'clock P. M., when the patient enjoyed and retained some chicken and a glass of Pilsner beer. November 8th the rest of the cocaine was given in hourly doses. There was no vomiting through the day. November 10th the patient left her bed, and since then her conditions have been quite satisfactory.

PUERPERAL FEVER.

The etiology of this disease at present is not fully determined, Leishman, Lusk, and many other eminent obstetricians differing widely in their definitions. Baker believes it to be an entity, while Thomas defines puerperal fever to be puerperal septicæmia. "It matters not," he says, "whether it assumes a form of phlebitis, cellulitis, lymphangitis, etc., the essence of the disorder is the absorption of the poison into the blood of the parturient woman through some solution of continuity in the tissues of the tract."

Dr. Thomas insists upon prophylactic measures in guarding against puerperal sepsis, and lays down ten excellent rules, the observance of which is well for lying-in wards, but is impracticable in private practice.

In practice, it seems to me, all that is necessary is prophylactic cleanliness, thorough emptying of the uterus after delivery, and insurance of uterine contraction. But when the inflammation has been lit up what shall we do? Shall we place our reliance on quinine, opium, stimulants or intra uterine injections—on one or all? The best obstetricians of the day make intra-uterine injections the most important feature of the *new* treatment.

But Dr. Thomas, concerning these injections, says that their use is attended by danger:

"The greatest hazard attending this plan is the entrance of air into the uterine sinuses; the next, the production of hæmorrhage by detaching some of the thrombi of the uterine sinuses; third, danger of forcing the fluid used as an antiseptic into the general circulation; fourth, the causing of convulsions, violent pain and nervous prostration; fifth, the passage of the tube into the fallopian canal, and the injection of the fluid into the peritoneal cavity." But these dangers, he finds, may be to a great extent avoided by attending to details:

(1) "By using a larger injecting tube—as large as the finger—which cannot enter into an open-mouthed sinus.

(2) "By using water warmed to 105°.

(3) "By injecting the fluid into the tube so as to exclude air before passing it up into the os-uteri.

(4) "By exerting only a moderate degree of force in throwing the jet against the uterine walls.

(5) "By proceeding with the whole affair gently, cautiously, slowly and intelligently."

The frequency of their use varies greatly with individual cases. In mild cases of septicæmia, when the temperature comes readily down after the uterus has been washed out, and rises very slowly, they need be used only once in five hours; in other instances every three hours they become necessary; and in bad cases we find that they are required once in every hour. As to the instrument employed, Dr. Thomas once shared the popular opinion of the profession, that nothing but a fountain syringe was allowable, as it threw a continuous stream; but he has now changed his views, and thinks an ordinary Davidson's syringe will more thoroughly cleanse the uterine walls. For this purpose he formerly relied upon the affusion of cold water, the patient lying upon a Kibbe's cot; at the present he accomplishes the same result much more easily and more pleasantly for the patient, by the use of Townsend's rubber-tube coil. In this he has most implicit confidence. It consists of a mat composed of rubber-tube rolled upon itself in a circle, and which covers the whole of the abdomen from ensiform cartilage to the symphysis pubis; by syphon action ice-water is made to run through the tube over the body of the patient into a tube on the floor. By this means Dr. Thomas claims that a temperature of 104° can very readily, as a rule, be kept at 100° for weeks together.

Dr. Thomas also aims to keep the nervous system under control by febrifuge medicine so as to control the tendency of chill pyrexia. For this purpose he thinks nothing equal to quinine. In regard to antiseptics, Dr. Thomas is strongly in favor of bi-chloride of mercury.

In speaking upon this subject, Dr. Paul F. Mundé remarks that he has "always believed that in the majority of cases puerperal fever is puerperal septicæmia, and is due to absorption of poisonous matter from the genital tract." But he does not make this the cause

for *all* cases; that is to say, he inclines somewhat toward the view that puerperal fever may be a disease by itself, and has seen cases in which there was no evidence of septic absorption. With regard to intra-uterine injections, he does not agree with Dr. Thomas—he thinks he does not sufficiently point out the exact indications for their use. It will not answer, he advises, to simply say that every time the temperature rises, or there is a fetid discharge from the vagina, the uterus must be washed out; there must be more exact indications. He mentions a case from his practice in which there was a rise in the temperature to 103°, but there was no fetid lochia. This was about the time for the beginning of the secretion of milk. In this instance he did not inject the uterus, the temperature fell under the influence of quinine and aconite, and a subsequent progress of the case was favorable.

Dr. Munde claims that ordinary lochia is not necessarily septic, and the genital tract is not necessarily in the condition of laceration, or in a condition favorable to the development of puerperal septicæmia; that it has been demonstrated by Ahlfeldt that the most poisonous lochia was entirely inoffensive; and further, he believes that no primipara is delivered without some lesion of the genital tract, while of multipara there is, in his estimation, probably not a case in which there is not some laceration about the cervix.

As to the manner of giving intra-uterine injections, Dr. Mundé does not agree with Dr. Thomas at all. Indeed, he has met with cases in which Davidson's syringe, in competent hands, has produced the most severe collapse. He objects to propelling a stream of water with force into the puerperal uterus, and thinks also there is a time when injections are no longer useful.

With reference to para- and perimatritis during the puerperal state, he advises: "*Do not wash out the uterus.*" As to the drug to be used for injection, he is inclined to favor bi-chloride of mercury solution one to two thousand.

Dr. W. M. Polk considers this disease as identical with septicæmia or surgical pyæmia; and that the variations that exist in its clinical history or in the pathological lesions, are simply those which are peculiar to the organs invaded. With respect to precautionary measures, in his opinion there can be nothing added to the rules given by Dr. Thomas. As to the actual treatment, the first thing to do is to wash out the uterus. If, however, this means does

not reduce the temperature, he uses the wet pack, and gives quinine and salicylic acid at the same time.

Dr. Garrigues adopts pretty much the same treatment as Dr. Thomas, except he uses a tube with an open end and smaller calibre than the Chamberlain.

Concerning the antiseptic used, he finds that bi-chloride of mercury presents great advantages over carbolic acid: "First of all, it is a more reliable disinfectant; next, it is free from odor itself, but is an excellent deodorizer, and even from an economical standpoint, this new treatment is a great improvement."

Dr. Wylie's views are essentially those of Dr. Garrigue.

My plan of treatment is about as follows—as precautionary measures:

(1) I insist on thorough cleanliness.

(2) I administer ergot just before the end of the second stage of labor, to insure contraction of the uterus and expulsion of the placenta.

(3) Never cease until I have removed every particle of the secundines in some way or other.

I give only two cases, which must suffice as illustrations of my mode of treatment.

Mrs. J., aged 20, primipara, was delivered by a midwife. Three days afterward I was sent for. On my arrival I found the woman in a sad plight. Her clothing and bed were saturated with the remains of the fluid portion of the secundines. The fetor was terrible. On examination I found the pulse 130, quick and wiry, temperature 104°, tongue heavily coated, the abdomen was very tense and painful to the touch.

On vaginal examination I found offensive putrefying clots, which I removed. There was partial delirium. I at once thoroughly washed out the vaginal tract with hot, carbolized water.

The following prescription was then given:

℞. Jaborandi fluid extract
Spts. nit. dulc. āā ℥ j
Tinct. aconite gtts. xvi

M. sig.—Teaspoonful in a little warm water or ginger tea—repeated every half hour till free perspiration.

The second dose had the desired effect, and in less than half an

hour the patient was perspiring profusely, with severe salivation. After the profuse diaphoresis had ceased, I gave a laxative of calomel, aloes and ipecac, to overcome the constipation. Two hours later the fever had fallen 2°. The kidneys had acted. I ordered the nurse to continue the hot water injections three times daily. Also to give the jaborandi mixture in half teaspoonful doses, in order to keep up moderate perspiration, and if the fever rose, the skin got dry and hot and the patient thirsty, to increase the dose to teaspoonful. On my return in twenty-four hours afterward, I found patient much improved.

About half the mixture had been taken. The pulse was now 98, the temperature 100°, the pain and swelling almost gone. Her mind was now clear, and she wished food. Kidneys continued to act freely, bowels moved, lochia established. The same treatment was continued. The case progressed favorably, and the patient was convalescing. In a few days afterward the same midwife attended Mrs. E. in her fifth confinement. Two days later I was called to the case. I found her with an intensely hot fever. Thirst urgent. Tongue heavily coated, with constipation. The temperature had reached 104½°, pulse 140 and feeble. Great anxiety existed. There was extreme pain in the lower part of the abdomen, which was tense. An examination per-vaginam revealed a small laceration of the vulva. There was a small quantity of fetid lochia.

I adopted the same treatment as in the former case, and in three days all symptoms of septicæmia were gone.

Now the *rationale* of this novel treatment I do not pretend to explain. But it has proven so successful in my hands in so many cases, indeed, in all my cases of puerperal fever, that I shall continue to use it so long as it yields such gratifying results.

TREATMENT OF ABORTION.

As regards the prophylactic treatment, the experience of your reporter coincides with the opinion of Dr. Byford, of Chicago, that there are two clinical facts with the habits of abortion :

(1) When uterine contractions were the prominent symptoms, absolute rest, opium and viburnum would arrest the abortion.

(2) When hæmorrhage was severe all efforts towards arresting the process would prove futile.

Concerning the treatment of inevitable abortion, Dr. Warren

Sawyer, of Chicago, has followed the expectant mode. He believes in the wonderful conservation of nature in these cases, and waits, and allows her to affect the expulsion of the product of conception. He has waited as long as one week.

Dr. J. T. Neilson, of the same city, has no sympathy with the expectant plan of treatment. He never rests till the uterine cavity is empty.

Dr. W. W. Jaggard, in a paper on this subject, thinks the weight of evidence lies in favor of the so-called "*radical treatment.*"

The plan recommended by Dr. Mundé in the *Journal of Obstetrics* is perhaps the best one to follow :

"When the abortion is inevitable, empty the cavity of the uterus at once. For this purpose the fingers are preferable to the instrument. With one or two fingers within the uterus and the other hand on the fundus, we can usually effect the removal of the contents."

But sometimes the walls are so thick and our fingers so short, that we can only touch the ovum and membranes. Then we must resort to instruments. In the selection of these Dr. Mundé's curette or Dr. Cheatham's scoop are to be preferred. We will have little difficulty in turning out the uterine contents with safety and expedition. But when the uterus is not dilated nor *dilatable*, and the hæmorrhage severe, we should, according to best authority, plug the os with tupelo tents.

And here Dr. McLane's injunctions are apropos : "*Don't tampon the vagina; don't apply ice anywhere.*" Dr. Mundé uses the antiseptic injections only when the discharge from the uterus and vagina is offensive. If there are symptoms of septicæmia, and the temperature is unaffected by the use of these injections for twenty-four hours, he thinks they no longer do any good, and then uses sodium salicylate, 10 grains every two hours.

MANAGMEENT OF THE THIRD STAGE OF LABOR.

As to the proper method of conducting the third stage of labor, experienced and learned obstetricians are still at variance.

It seems that the teachings of the best schools of America and Germany are favorable to the plan of early interference. Dr. Hodges advised moderate traction upon the cord at the end of

a half hour or hour, and Dr. Meigs stated that he never waited for the spontaneous extrusion more than an hour and a half, for he always supposed that if it would not take place in one hour there were little prospects for its taking place in twenty-four.

Dr. Parvin, who does not altogether sanction this early method of procedure, in writing on this subject says in the *Philadelphia Medical Times:*

"In studying the phenomenon of placental delivery, we find there were three stages, viz: First, the separation of the placenta from the uterus; second, its extension from the uterine cavity; and third, its expulsion from the vagina.

"A practical question is here presented: Is this separation facilitated by ligating the placental end of the cord? In other words, ought the obstetrician to use two ligatures or one? The advocates of two ligatures claim that in this case the placenta being larger, fuller and firmer, cannot so well follow the retractions of the uterus as it can if thin and flexible from loss of blood, and therefore in the former case is more certain and completely detached.

"Few practitioners now are willing to trust nature, but guard against the delay of the delivery of the placenta by adopting the Credéan method of expression, keeping the hand on the uterus at least as a sentinel to warn of uterine relaxation, and better still, as a stimulant to, and reinforcement of, uterine contraction.

"A general observance of this practice reduces to minimum cases of post-partum hæmorrhage and of hour-glass contraction."

Now a practical lesson is presented from the study of the mechanism of placental delivery.

If Drs. Duncan and Parvin are correct in their views of marginal presentation, traction upon the cord is mischievous, for it interferes with normal presentation; but if the French school be correct in their views, that the normal presentation is that of the fœtal surface, such traction facilitates the second stage of delivery.

In the early practice of your reporter the expectant plan of delivery was adopted, but not being satisfied with the results of this method, I determined to adopt a different method of treatment. Accordingly I ventured to try the method recommended by Prof. Credé, though contrary to the advice of older writers. The experiment was crowned with such immediate and satisfactory results, that I determined to practice no other. Since that time I have boldly practiced the so-

called "radical plan" of immediate removal of the placenta by gentle traction and expression, and in the last 290 cases have not had a fatal issue.

TREATMENT OF UTERINE HÆMORRHAGE.

At a meeting of the National Medical Association, held at Columbus, Ohio, Dr. J. R. Borland reported a case of uterine hæmorrhage of twenty-five year's standing, which was successfully treated with Extract of Pinus Canadensis.

Dr. Landau, of Berlin, successfully treats hæmorrhage from the uterus with a strong solution of per-sulphate of iron injected into the uterine cavity. In 500 cases Dr. Landau has had but one case of uterine colic. He never uses intra-uterine injections of ice-water because the effect is only temporary. He has frequently used the hot-water injection, but prefers liq. ferri. Dr. Martin injects almost boiling water into the uterus, and then takes a stitch through the cervix to keep it in.

TARNIER'S BASIOTRIBE.

The breaking up of the fœtal head has remained, despite the many proceedings which have been proposed for its execution, one of the most difficult and laborious operations which the obstetrician is obliged to perform. The cephalotribe is, no doubt, an instrument which will crush the matter brought within its blades, but when a fœtal head is retained above a contracted brim, it is difficult to place the blades in such a manner as to seize the base of cranium.

"In 1883 (December 11th) Prof. Tarnier brought to the notice of the Academy of Medicine a new instrument for crushing and withdrawing the head to which he has given the name of basiotribe. It unites in one apparatus the advantages of the cranioclast and cephalotribe; like the former, it seizes the head and fixes it immovably, and it resembles the latter in its powerful crushing capacity. Tarnier's basiotribe consists of three branches of unequal length and a crushing screw. Its total length is 41 centimeters; when it is articulated and closed its width is 4 centimeters; from front to back it measures 4½ centimeters; its weight is 1200 grammes."

For a complete detail of the method of its application and result

we must refer you to the January number (1885) of the *New York Medical Abstract.*

Suffice it to say that the great merits of this instrument consist in the fact that after the perforated and first blade are introduced, the *first* crushing of the process is accomplished, when the other blade is introduced the second part of the process is completed. Then, all three of these handles being articulated, it only remains to screw them up and the basiotripsy is completed.

LAPARO-ELYTROTOMY.

In the NORTH CAROLINA MEDICAL JOURNAL (February, 1885) appears a report of a successful case of laparo-elytrotomy by Dr. Alexander J. C. Skene being the ninth on record, four of which had been performed by this surgeon. Of these four three were successful operations, both mothers and children being saved. Dr. Skene is convinced of the superiority of this operation over the Cæsarian section.

As to the method of operation, the usual incision was made in the left groin. The epigastric artery was secured by Pean forceps, and, after reaching the wall of the vagina, a small incision was made, and this was enlarged by tearing it. Some little time was lost in effecting complete dilation. A living male child, fully developed, weighing seven pounds, was delivered by version and extraction through the wound in the groin. The placenta was delivered by contraction of the uterus, aided by external manipulations. The operation wound in the groin was closed by carbolized silk sutures, a soft rubber drainage tube being carried from the inner angle of the incision downward through the vagina. The after history of the case presented no untoward features. There are certain practical points in regard to the operation to which Dr. Skene directs attention. First, it is all important to have sufficient dilatation of the cervix before the beginning of the operation. Second, in regard to the anatomy of the region involved, his recent operations confirm his former views, that the "only safe guide to the surgeon in his dissection is a thorough familiarity with the appearance of the various organs and tissues, which enables him to recognize the structures as he meets them." Third, that the fear of "danger from hæmorrhage in laparo-elytrotomy is not justified by experience." Fourth, much care is necessary to save the bladder, "in

fact," he says, "wounding the bladder is the only accident that has happened" to him in the operation. "In conclusion," he says, "I can only express the hope that this operation will soon become more generally resorted to, especially in those countries where there are so many more unfortunate mothers the subjects of similar deformities."

GYNECOLOGY.

Is the Extirpation of the Cancerous Uterus a Justifiable Operation?

This is still a mooted question. The German school maintains the affirmative, while the Americans argue in the negative.

The Berlin correspondent to the *Journal of the American Medical Association*, writes:

"During the last three years Dr. Martin has extirpated the cancerous uterus per-vaginum 58 times, and his assistant, Dr. Durelius, 4 times. Out of these 62 cases there were only 5 deaths, and these happened sometime ago, when the operation was a comparatively new one; so now a fatal result is very exceptional. "Such results are among the triumphs of modern surgery."

Dr. Schrœder says that he cannot believe with Americans, that extirpation of the uterus is a needless and dangerous operation. He has had only 25 per cent. of deaths in his cases, and if we do not extirpate the woman will die anyway.

Dr. A. Reeves Jackson, in a reprinted article from gynecology transaction on the above subjects, gives the following summary, which fully reflects the American mind:

1. Diagnosis of uterine cancer cannot be made sufficiently early to insure its complete removal of the uterus.

2. When the diagnosis can be established, there is no reasonable hope of radical cure; and other methods of treatment far less dangerous than excision of the entire organ, are equally effectual in ameliorating the suffering, retarding the process of the disease and prolonging life.

3. Extirpation of the cancerous uterus is a highly dangerous operation, and neither lessens suffering, except in those it kills, nor gives reasonable promise of permanent cure in those who survive the operation.

Rapid Dilatation of the Uterine Canal.

Dr. William Goodell, at a stated meeting of the Obstetrical Society of Philadelphia, remarked upon this subject :

"For many years I enlarged or straightened the uterine canal according to the requirements of the case, either by tents or Sims' operation, preferably by the former. Having had several serious warnings in the shape of inflammation following these operations, I began to perform them with fear and trembling. Yet nothing untoward happened till the year 1878, when two serious mishaps befel me—a death from septicæmia, after Sims' operation, and one from peretonitis, after dilating with the tent and using the curette.

In search for a substitute for these methods he resorted to rapid dilatation, and says "it has proven so safe and efficient an operation that I wish to urge its claims before the Society." The instruments which Dr. Goodell recommends are two Ellinger dilators of different sizes. These are best on account of the parallel action of their blades.

For a minute description of the operation I must refer you to Dr. Goodell's excellent paper in the *Journal of the American Medical Association.*

Your humble scribe can add his testimony to what has been said in reference to rapid dilatation of the os by Dr. Goodell. I have successfully treated several cases of dysmenorrhea with flexion by this method. One case, in particular, of twelve years standing, is now completely relieved from her suffering, which was so excruciating at each recurrence of the menstrual period that it wholly unfitted her for any duties whatever. I use, however, Nott's dilator, which seems to answer every purpose for ordinary stenosis, with the characteristic "pin-hole" os.

Uterine Displacements.

Perhaps in no other department of gynecological practice has a subject been more thoroughly considered than treatment of uterine displacements, and although much has been achieved in this direction by study, still there remains much diversity of opinion in regard to the propriety and method of such treatment. In a recent paper read before the Gynecological Society of Boston by Dr.

Augustus C. Clarke, of Cambridge, in regard to pessaries, appears the following :

"Without attempting to wade through the history and description of these several singular contrivances, I would state that the main design, in theory, at least, in the treatment of uterine flexions, is to place the unimpregnated uterus of a woman otherwise healthy, in such a plane or position in the pelvis that the circulation of that organ shall be unobstructed."

Dr. Clarke's opinion in regard to treatment is that a tampon of glycerine and tannin, coupled with good tonic constitutional treatment, will do more in relieving the distressing symptoms of a displaced uterus than any other method of procedure. The glycerine he advises according to its well-known action—abstracts fluid from the thickened and œdematous parts, while the tannin, by its astringent power, gives support to the vaginal and uterine wall.

Dr. Robert G. Bell, of Glasgow, recommends alum, instead of tannin. According to this author, the tampon, when saturated with a solution of alum and glycerine, and applied to flexions and versions, acts in three different ways :

1. As a support.
2. As a depleting agent.
3. As an invigorating agent to the uterus and vagina.

Dr. Clarke, in his interesting paper, details several cases he endeavored to cure with different pessaries, but gave them up one after another, as they disappointed him, and found more permanent relief in the medicated tampon.

Matthews Duncan, in speaking of the use of pessaries, remarked that he never used one on any ground in a virgin ; as to the benefit of ante-version pessaries he expresses no belief ; but thinks that if they do good it is not by keeping the uterus straight, it is by preventing further descent of that organ. He further remarks that he has never used an anteversion pessary, as he has never seen any good from their use.

Dr. Emmet is of the opinion that it is only in retroversion and prolapse that mechanical means do any good.

According to Dr. Vedler (Archiv. für Gynekologie), who examined 3,012 women of the menstrual age, there were only 18 suffering from prolapsus ; in the remaining 2,994 the uterus was found normal in only 15 per cent., it was anteverted in 12 per cent.,

retroverted in 10 per cent., and anteflexed in 54 per cent. Emmet early recognized that versions may exist for an indefinite period without causing any disturbance, and it is only when the circulation is obstructed that discomforts arise.

Treatment af Fibro-Myomas of the Uterus by Laparotomy.

In the *Journal of Obstetrics* we find a summarized paper which was read by Dr. Kœberle at the International Medical Congress, upon the above subject. He said :

"The indication for laparotomy depends upon : 1. Excessive and protracted hæmorrhages and a rapid and continuous growth of the tumor. 2. The more or less advanced age of the patient, the farther removed the patient is from the menopause the earlier the operation will be indicated. 3. The site of the tumor—those located in the lower segment of the uterus or in the broad ligaments always offer an unfavorable prognosis for operative interference. 4. Special conditions, when the tumor makes life a burden to the patient. The operation is *contraindictated* when extensive vacular adhesions exist between the tumor and the anterior abdominal wall ; when the tumor is wedged in the lesser pelvis ; when there is ascites, which tends to increase and reproduce itself rapidly ; when there are present incurable diseases, or such as may jeopardize the progress of recovery. Regarding the *method of operating*, the incision should always be made in the median line. When the incision extends beyond the navel the latter is excised. In pedunculated tumors the pedicle is simply ligated (in two or more portions) and dropped. Comparatively small, limited sessile tumors can be enucleated and the wound then united linealy with dropped sutures. This method, which Kœberle has employed since 1878, gives no absolute protection against hæmorrhage, and should be resorted to only in exceptional cases. The large tumors can be removed only with partial or total extirpation of the uterus. These cases are divisible into two classes, in one of which the tumor extends no farther than the internal os, and is not adherent to the ligaments ; the other in which it reaches into the cervix or has developed subperitoneally. The former class of tumors can be operated on in various ways: usually Kœberle isolates the uterus on both sides by a series of dropped sutures, applies two metallic ligatures to the cervix, tightens them with serre-nœud, removes the tumor and fastens the

stump in the abdominal wound by a transfixing needle. In this manner the author has operated on about 50 cases. The mortality is about the same as in the extra-peritoneal ovariotomy operation, 5 to 10 per cent. It would be better if the pedicle could be developed, but Kœberle fears that thereby the hemostasis could not be certainly established. When the tumor is situated in the broad ligaments the operation is almost invariably fatal.

The Treatment of Fibro-Myomas by Electricity.

The more conservative method of treating fibro-myomas by electricity is beginning to compare favorably with its bolder rival, the bloody operation. The former method of applying a *weak, interrupted* current, and the active pole only within the vagina is now superseded by the application of an *intense, constant* current with the active pole within the uterus. The advocates of this new method of procedure claim for it a great superiority over the former.

Dr. Apostolie, of Paris, records more than 100 cases in which recovery was complete. The tumors did not disappear altogether, but they atrophied and shrank away.

Oöphorectomy vs. Myomotomy for Uterine Fibromata.

In comparing the advantages and results of these two operations for the cure of uterine fibroma, oöphorectomy seems to have the weight of argument and clinical experience in its favor.

Dr. Wiedow, who spoke on this subject at the International Medical Congress, had collected the entire number of oöphorectomies thus far performed for uterine fibroma. His main object was to show the influence on the arrest of hæmorrhages on the atrophy of the tumors. The total number of operations collected were 149. Of these 11 per cent. died of the results of the operation. Of the remaining number 49 were under observation for a year, with the following results: In 36 cases the menopause and diminution of the tumor were produced; in 3 cases menopause (no report of tumor); in 8 cases diminution of the tumor, with slight irregular hæmorrhage; in the other two cases no report of the tumor in one case, with slight hæmorrhage; in the other no report of the hæmorrhage, with diminution of the tumor. These results may be called excellent. Altogether, it appeared to the author of these statistics that oöphorectomy must occupy the first

rank, and myomotomy, with a mortality of 33 per cent., the second position. According to the experience of Drs. Wiedow and Hegar myomotomy must be restricted, first, to fibro-cystic tumors; second, to pedunculated subperitoneal tumors, in which the disposal of the pedicle is easy. For cervical myomas, Prof. Hegar thinks the removal by laparotomy gives very bad results; for these he recommends oōphorectomy altogether. In regard to the question whether oōphorectomy or myomotomy is preferable, Hegar occupies the same standpoint as Wiedow. In conclusion, these reports seem to show the error of Lawson Tait's view, that the extirpation of the entire Fallopian tubes is the main thing in the treatment of uterine myoma.

Pyosalpinx.

This seems now to be a recognized disease in gynecology. Lawson Tait has the honor of first pointing out the symptoms and treatment of this disease. According to his views it is a chronic inflammation of the Fallopian tubes, caused most usually by an attack of gonorrhœa. In delivering a clinical lecture in Bellevue Hospital in last October he remarked:

"Until I pointed it out some four or five years ago, the fact was not known, or, at least, had been completely lost sight of, that gonorrhœal inflammation spread along the Fallopian tubes and gave rise to immense mischief."

The tubes become inflamed and occluded, and the risk to life, he thinks, in pyosalpinx from rupture of the tube and discharge of pus into the péritenum, is very great—so great, that the accident occurs in about 50 per cent. of the cases. The method of operating for the cure of pyro- or hydrosalpinx is by his usual abdominal incision. He cautions against operating from below, as some advise; indeed, he thinks it is dangerous.

Corrections of Errors in Minutes of State Medical Society. Dr. George G. Thomas' name should have appeared as a member of Committee on Nominations in place of Dr. W. D. Hilliard, elected to fill vacancy on North Carolina Board of Health.

Exhibition of bone from spleen, and shot from vermiform, and two successful operations on cataract under the influence of hydrochlorate of cocaine, credited to Dr. Harriss, should have been credited to Dr. J. M. Hayes, of Oxford.

MICRO-ORGANISMS IN RELATION TO DISEASE.

By Hubert Haywood, M.D., Raleigh, N. C.

(Annual Essay, Delivered before the Medical Society of North Carolina, at Durham, May 20th, 1885.)

Mr. President and fellow-members of the North Carolina State Medical Society:

Having been honored with the position of Essayist, I have thought over the wide field of medical literature, and have concluded to ask your attention to a subject which, while engaging the most general and painstaking attention of the medical world, is not only very important for us as practitioners of medicine and surgery and as sanitarians, but is at the same time very interesting to me. I hope I shall be able in the following pages to present it to you in equally as an attractive and interesting a form as I have found it in my numerous readings. The subject is such a vast one, and the bibliography so immense and conflicting, the task is very difficult to condense it into the short space of *one* essay and do justice to it—to separate the wheat from the chaff, deductions from demonstrations, facts from fancies, etc. I shall of necessity be forced to pass in rapid review only all the important facts bearing on the subject, selecting what I consider the most trustworthy, referring you for details in the methods of research, experimentation, etc., to the various and multitudinous writings on the subject, especially to those of Koch, Pasteur, Klein, Belfield, Gradle, Sternberg and Magnin, Formad, Black, Spina, Sattler, Marcy, etc., to whom I will here now, once and for all, in order to avoid needless repetitions, acknowledge my indebtedness for the following pages. Without further ado, I will therefore invite your attention to

MICRO-ORGANISMS AND THEIR RELATIONS TO DISEASE.

Morphology.—Bacteria, the smallest of all microscopic beings, are the lowest organisms situated upon the limit of the two kingdoms, animal and vegetable. Their vegetable nature is, however, admitted. They are of a true cellular structure, their envelope being of cellulose and mycoprotein, their protoplasm or mycopro-

tein being a nitrogenous substance, generally colorless, more highly refractive than water. This protoplasm is sometimes homogeneous and sometimes there are portions more highly refractive, vacuoles, special granules, and sometimes diverse coloring matters. They are cells deprived of chlorophyll, of globular, oblong or cylindrical form, sometimes sinuous and twisted, reproducing themselves exclusively by transverse division or binary fission; hence the term schizomycetes and endogenous sporification, living free and isolated, i. e., unicellular or in cellular families, united in chains of spherical elements, i. e., torula, of filament, i. e., leptothrix, in zoöglea or masses imbedded in a mucous substance or hyaline gelatinous matrix produced by them, called mycoprotein, in the form of mycoderma or thick membranous layer, in swarms, in a state of temporary repose as a pulverulent precipitate. They have affinities which approach them to the algæ, and especially to the oscillatoriæ. They are active or motionless. There are two kinds of movement—a movement of the corpuscle upon itself, a molecular or Brownian movement, or a more extended movement of rotation round the axis or a bending of the body, and a movement of translation, which varies as to rapidity and slowness relatively with the length and form of the bacterium. The cilia or flagella which exist in nearly all the true bacteria are hardly the cause of the movements, though supposed to be by many, for there are examples in which the body remains motionless, while the cilia are in violent agitation, and others in which the body moves, while the cilia remain inert or dragging behind. The movements appear to depend rather upon the nutrition or respiration, and especially upon the presence of oxygen. Immobility may also be produced by want of nutriment, poisoning by different toxic substances, dessication, etc. They are nourished and respire by endosmotic absorption. They must have water, nitrogen, carbon, certain inorganic mineral salts, phosphates, potassium and sodium salts and some free access of oxygen—ærobic, while others grow without free oxygen—anærobic, physical, chemical and biological influences favor and hinder their multiplication.

There are three different theories as to their origin:

1. Heterogenesis, i. e., spontaneous generation.

2. Poly-morphism, i. e., evolution or transformation from pre-existing organisms, and that they are different stages of development of known species, whose life cycle is not yet discovered.

3. Autogenesis, i. e., they are developed from organisms similar to themselves by fission, spores, etc.

The first is disproven beyond question ; hence the dogma, *omne vivum ex ovo.*

As to the second, the only transformation which can be compared to poly-morphism, consists in the transformation of spores into bacteria, bacteridiæ, vibrios, etc., and in the different modes of grouping that the cells take in becoming zoöglea, mycoderma, leptothrix, etc.

The third theory is the generally adopted one. They are ubiquitous—present in the air, in waves or clouds, in the atmospheric dust—very few in the adult form, but mostly as permanent spores, in water in considerable quantities, both as adults and spores—the only exception being the waters drawn from the very source of a spring, in and on the soil, on the surface of solid bodies, in the interior of plants and animals, on the surface of the human body and in the interior of the organs in communication with the exterior. They are not found in the blood or tissues of the healthy living body of either man or lower animals.

Classification.—Cohn's classification, which is the best, is as follows :

1. Sphero-bacteria or micro-cocci.
2. Micro-bacteria or bacteria.
3. Desmo-bacteria or bacilli.
4. Spiro-bacteria or bacteria in spiral filaments.
   1. Spirilla.
   2. Spiro-chætæs—screw-shaped thread, with flexible and narrow coil, but less rigid and not so wide a screw as spirilla.

There are also various kinds of schizophites, which approach one or the other of these, e. g., sarcina, in which the division occurs by two perpendicular partitions, in such a manner that multiplication takes place in two directions—ascococcus, leptothrix (Beggiotoa), cladothrix, streptothrix, etc.

A micrococcus is a minute spherical or slightly oval organism, which is capable of Brownian or molecular movement or trepidation. It does not possess any cilium or flagellum, and never multiplies by gemmation or sporification, but only by fission. Their size varies from .0008 to .002 millimetres or a little more. They are divided according to their chemical and physiological function into

(*a*) Septic, which occur with other bacteria, wherever there is

decomposition of solid or fluid organic matter. There are a large number of this species.

(*b*) Zymogenic or fermentative, which are associated with definite chemical processes. Such are the micrococcus ureæ, of the mucoid wine and beer fermentation and that causing phosphorescence in putrid meal and fish.

(*c*) Chromogenic or pigmentary, which are characterized by their power of forming pigment of various colors. Such are prodigiosus, chlorimus, fulvus, lutens, auriantiacus, cyaneus, violaceus and candidus.

(*d*) Pathogenic, which are connected with disease and are numerous—micro-bacteria or bacteria or rod-bacteria are slightly elongated and oval or short and cylindrical, with rounded ends. They are capable of spontaneous locomotion, have a flagellum at one or both ends, and perform active spinning or darting movements and divide by fission. They comprise :

(*a*) Septic, which includes only bacterium termo and bacterium lineola.

(*b*) Zymogenic, embracing bacterium lactis and bacterium acetis.

(*c*) Chromogenic, such as bacterium xanthinum and bacterium æruginosum.

(*d*) Cathogenic, of which there are three kinds, e. g., of Koch's septicæmia, of Davaine's septicæmia and of Fowl cholera.

Desmo-bacteria or bacilli or rectilinear filaments are cylindrical or rod-shaped, rounded or square cut, at their extremities. They divide by fission and form spores. They are isolated or in chains—sometimes in swarms, never in zoöglœa. There are attenuations of movements and states of repose, and sometimes there are no movements whatever. There are a great many species which differ :

(*a*) In the shape of the elements.

(*b*) In motility.

(*c*) In the power of forming filaments or leptothrix.

(*d*) Particularly in the thickness and length of the elements.

Sporification in their most striking phenomenon. The spores are generally oval, when fully developed, spherical when immature. Their appearance is always bright and glistening. They absorb dyes not at all or with great difficulty. They are generally a little thicker than the bacilli within which they have developed. The way in which they are formed is always as follows ; in one or other

elementary cubical, spherical or rod-like mass of protoplasm, either in the extremity or body of the article, a bright dot appears, which refracts light strongly, having a dark outline ; at the expense of the protoplasm this enlarges, until it assumes an oval shape, when it is fully developed. This process does not consume the whole of the protoplasm of an element—at one or both ends a small trace always being unused. The bacillus looks much thickened with its enlarged sheath. Some authors state that the sheath, after having swollen up, remains for sometime as a byaline gelatinous capsule around the spore and the protoplasm remnant, which disappears little by little, and is replaced by a hyaline liquid. This dissolves and is finally lost, the spore becoming free. Others claim that the spore, with the protoplasm remnant, becomes free by the rupture of the sheath. This remnant soon disappears, leaving the spore entirely alone. A spore may be formed under the most favorable conditions in each elementary mass of protoplasm, or it may be only in a small number. Sporification closes the cycle of the life-history of the bacilli. It occurs in many species of bacilli, but not under all circumstances. With many bacilli it occurs only when there is free access of air and an ample supply of oxygen, and has nothing to do, so Klein says, with the exhaustion of the nourishing material, as Buchner thinks. According to Klein the rule is that wherever the spores are formed they germinate into bacilli, if they have access to nourishing material, but if not, or if the nourishing material is exhausted, they remain as spores only capable of germinating into bacilli, when new nourishing material is added, or when transplanted to new nourishing material. Some claim that the germination of the spore does not seem to occur in the same medium, but does so only when transplanted. They are also capable of germinating independently of the free access of air. Spore formation does not take place at low temperatures. Koch places the limits for anthrax at 12° C. and 43° C., but Klein gives 44° C. as the upper limit. An essential element for the formation of spores is moisture. The spores are the permanent or durable seeds, capable of retaining life and of germinating into bacilli, even after what would appear the most damaging influences (that is, damaging to all other kinds of organisms and to the bacilli themselves), such as long lapse of time, drying, heat, cold, chemical reagents, etc. Whether they are kept dry or in the mother liquid, they retain the power to germinate into

bacilli after the lapse of long periods, and there is no reason to assume these periods have any limit. This great resistance of spores to low and high temperatures, to acids and other substances, is due to the fact that the substance of each spore is enveloped in a double sheath—an internal sheath, probably of a fatty nature, and an external one, probably of cellulose; both are very bad conductors of heat. They are frequently mistaken for micrococci, as they are identical in form and aspect, and for granules, etc. Their points of differentiation are their germination and multiplication and staining reactions, together with their optical signs. It is not, however, always easy to extinguish a spore from a micrococcus.

The bacilli are divided into:

1. Septic. These are bacillus subtilis, ulva, septicus, streptothrix and cladothrix and beggiotoa.

2. Zymogenic, e. g., bacillus butyricus (bacillus amylobacter).

3. Chromogenic. Such are bacillus ruber, erythrosporus and syncyanus.

4. Pathogenic. These are numerous spiro-bacteria or spirilla, are filaments of a spiral shape, motile, and, when moving, owing to their shape, follow a spiral course. They are probably capable of forming minute bright spores, and in some species there are cilia. They include:

1. Septic. These are tenue (which forms plicatile or spiro-chætæ), undula and volutans.

2. Pigment. Such are rose-colored and sanguineum.

3. Pathogenic, e. g., spirillum Obermyeri.

Vibriones are rod-shaped, but not straight, more or less wavy and motile. They are the transition between the desmo-bacteria and the spirilla, but rather allied to the spirilla, because of their undulating filaments. Their bodies are filiform, more or less distinctly articulated and always undulating. Their movements are serpentine. They include:

(*a*) Vibrio rugula.

(*b*) Vibrio serpens.

Yeast fungi, torrulaceæ or saccharomycetes are not bacteria, but belong to the order of fungi called blastomycetes. They multiply by gemmation and sporification. The numerous species vary morphologically chiefly in size and physiologically by their action on different fluids. They all have the power to split up sugar into

alcohol and carbonic acid. Grawitz has proven that oidium albicans, which is the recognized cause of thrush, is identical with the oidium variety saccharomyces mycoderma. Mould fungi, hyphomycetes, mucorini or mycelial fungi consist of branched and septate hyphæ, composed of rows of cylindrical cells. They increase in number by fission and budding or gemmating laterally. The mycelial fungi, called ascomycetes, are the only ones which need engage our attention. They are charcterized by the fact that one or the other branch of the mycelial hyphæ produces at its end a series of spherical or oval cells—the conidia spores or conidia. In addition to this some of the hyphæ form peculiar large mother cells or sporangia, in the interior of which a number of spores are formed by endogenous sporification. They are divided into :

(*a*) Oidium Lactis—morphologically identical with the fungus causing favus, herpes tonsurans and pityriasis versicolor of man and animals, according to Grawitz, while Malcolm Morris and G. C. Henderson claim that the fungus causing herpes tonsurans is identical with the mycelium of penicillium.

(*b*) Aspergillus. This very common mould is subdivided into different species, according to differences in the coloration of the mycelium and spores. Lichtheim showed that the spores of aspergillus flavescens and fumigatus would, when introduced into the vascular system or peritoneal cavity of rabbits, sometimes grow and produce death with symptoms of metastasis into the various organs due to localized foci, where these spores grow. The spores which possess such pathogenic properties are not at all dependent upon acclimatisation and are not ordinary moulds, but a distinct species of aspergillus, the spores of which, under all conditions of growth, are capable of producing in rabbits the mycosis in question.

(*c*) Penicillium.

(*d*) Mucor, which belongs to the phycomycetes fungi.

(*e*) Saphrolegnia, which also belongs to the phycomycetes fungi. It grows on the skin of living fish and causes here severe illness, often terminating in death. Prof. Huxley has shown that the salmon disease is caused by this parasite.

Actinomyces are peculiar, club-shaped corpuscles, homogeneous and of a bright, slightly greenish lustre. They are the cause of a disease called actinomycosis. Bolinger first described the disease in cattle. Israel first pointed it out in the man, and Ponfick has

proven that it is not a rare disease. Johne has trasmitted the disease by inoculation from cattle to cattle, and J. Israel claims to have artificially cultivated the actinomyces on solid ox-serum. Having now finished the discussion of the micro-organisms other than bacteria, to which it was necessary to ask your attention, I must now return to bacteria proper.

Bacteria cause the return of dead organic matter to the atmosphere and water. If, then, the equilibrium is maintained between living nature and dead nature, if the air has always the same composition, if the waters are always equally fertilizing, it is thanks to the infinitely minute agents of fermentation and putrefaction. Bacteria also invade the living organism and bring in their attack the double character of infinite smallness in the apparent means and powerful destructive energy in the results. From this source comes disease. The germ theory supposes the invasion of the organism by microscopic parasites or their germs, and considers diseases as a struggle between the organism and the parasites invading it. It discards the old ideas of impurities of the blood, chemical dyscrasia, a genius epidemicus, the omnipotent bug-bear, cold, and eliminates the factor accident, assigning disease, which is a disturbance of the normal play of some one or different parts of the organism—the reaction to an unaccustomed influence—a place in the Darwinian programme of nature.

Among the most potent arguments advanced in favor of the germ theory may be mentioned the following: Every species of living beings throughout nature struggles for its existence with all other beings with which it comes in immediate contact, in many instances the smaller species preying upon the body of larger creatures and deriving from the organism of their host their means of support. Parasitism is of common occurrence throughout the animal and vegetable kingdoms. Indeed, it is claimed that all diseases of plants are of parasitic origin. We also find in the bodies of higher beings the parasitic existence of lower animals, such as intestinal worms, trichina spiralis, the filaria found in the blood of chyluria, etc. The development of lower plants in the interior of animal bodies—in fact, in all animals, down to insects and worms, producing disease, is of much more frequent occurrence, one of the best examples being the pebrine of the silk-worm. In the higher animals and man there are certain affections of the skin due to the

growth of various vegetable parasites and different fungi on the affected spot. Now, look at the infectious diseases, and what do we find?

The period of incubation, the unlimited reproductive power of the virus, the cyclical course and self-limitation of the disease.

The stage of incubation can be explained by the assumption of no unorganized virus. All mere chemical compounds and potent chemical poisons with which we are acquainted, even the ferments ptyalin and pepsin, especially when injected subcutaneously, act promptly and begin to manifest the characteristic effects, as soon as absorption has occurred, their poisonous effects bearing a relation to the dose in which they are administered. The stage of incubation is then the period during which the inducted organisms are multiplying. How else can we explain the various durations of the incubative stage characteristic of the different diseases. We cannot conceive that one chemical poison should require two to four days for the manifestation of its constitutional effects, as in scarlet fever, another forty days, as in syphilis; but we know different micro-organisms multiply with different degrees of rapidity. The unlimited reproductive power of the virus, characteristic of many infectious diseases, cannot be attributed to an unorganized poison, or even organic ferment. A drop of blood from an animal poisoned with opium or strychnine exhibits only the power of the diluted poison. A drop of vaccine lymph, of variolous or gonorrhœal pus induces, in successive generations, unlimited quantities of identical material. This effect cannot be justly ascribed even to any physiological unorganized ferment. Ptyalin can, it is true, convert into grape sugar many times its bulk of starch, and the ptyalin is not thereby diminished in quantity; but it is not increased. It does not multiply or reproduce itself. The virus of an infectious disease must be something capable of reproduction, and this power is the peculiar characteristic of an organism. No unorganized poison, acid, salt, alkaloid, ferment is at present known which is capable of manifesting the phenomena shown by the virus of syphilis, variola, scarlatina, etc. The cyclical course and self-limitation of the infectious diseases can also only be accounted for by the vital activity and life history of micro-organisms. Many infectious diseases are intimately associated with climate, soil and topographical features, indeed, indigenous to certain districts.

In nature we also find that many plants and animals of larger growth, as well as microscopic organisms, including fungi, have decidedly limited habitats. What stronger proof is wanted to establish the relation of cause and effect than the mere recital of the above facts? Yet we cannot let the matter rest here. The germ theory has still more substantial foundations—clinically the measures and remedies that have the most beneficial effects in the prevention, treatment and cure of the different infectious diseases have been proven to be antiseptic and germicidal in their properties Lastly, there is the direct proof of the certainty of the germ theory in the artificial cultivations of micro-organisms, associated with certain diseases and obtained from the subjects of such diseases, in sterilized, nutrient fluids and inoculations with these pure cultures, several generations removed from the original source, thus reproducing the original disease, with all of its characteristic features. Yet, in the face of all this proof, there are some still bold enough to contend that, while admitting the accuracy of the experimental results obtained with micro-organisms, yet, that the invading parasites are the mere carriers of the non-living ferment, which they claim is the special poison causing the disease—possessing all the malignant potency—the micro-organisms being merely secondary or epiphenomena. Inoculation experiments with a pure culture sufficiently removed from the natural infecting material to exclude this hypothesis. If we take a fluidrachm of a sterilized, nutrient fluid and introduce one minim of infectious material, and then take one minim of this and infect another drachm of culture fluid and carry this on to the eighth culture, the degree of dilution of this original material will be one part in 1,679,611,600,000,000. This infinitesimal portion of a hypothetical chemical virus would therefore practically amount to nothing, and as this eighth culture possesses all the virulence of the first, the poison must be reproductive; therefore bacterial. Besides the organisms, introduced into culture not as seed, disappear as quickly from successive cultures as does the non-living material with which they are associated, and we may very soon leave them out of the account, although each successive culture fluid is invaded throughout by their numerous progeny.

Here a most interesting question presents itself: How do micro-organisms gain access to the human body, and how do they obtain a foothold?

The prevalence of bacteria in the vegetating condition and dried in suspension in the air, evidently brings them into contact with the animal body. They exist usually in a dried state on the surface of the skin and hair, and cannot be removed entirely by washing. With every breath we take, with every morsel of food we consume and with the water we drink bacteria gain access into our bodies. Here they do no harm, if the conditions are unfavorable to their multiplication, if the animal is insusceptible, or, in other words, as some believe, if there is present in the system a chemical substance, the product of the living cells, which is hostile to their reproduction. They then die and are heard of no more. If, on the contrary, we are susceptible, if the animal body contains a certain chemical substance necessary for their sustenance, if they find a favorable soil, bacterial life and activity are soon manifested. Although we may be, to a certain extent, insusceptible, and are possessed of a certain amount of inherent resistance, yet bacteria may evolve a poison themselves, which impairs vitality, and thus gain a foothold, or, our health being below par, our vitality lowered by any cause whatever, by sickness, dissipation, poisons, etc., our resistance is overcome, and they in this way gain a foothold. We may thus have either an inherent or acquired susceptibility. As a result of this victorious struggling with the animal cells, we have produced diseases in their protean types. We are of course speaking only of pathogenic micro-organisms, to which we must now confine our attention.

Now, how is this injury to their host brought about? Probably in three ways:

1. Mechanically, by blocking up the capillaries and the formation of emboli.

2. By appropriating something from the vital fluid or from the tissues invaded by them, e. g., oxygen, etc., which are essential for the maintenance of vital processes in the living animal.

3. By evolving at the same time it appropriates material for its own nutrition, some poisonous chemical product or excreting some zymogen or ferment, which is the immediate cause of the morbid phenomena in the infected animal.

Having thus caused so much mischief, what stops their multiplication? how does recovery take place, and how do they disappear from the system?

The following are offered in answer to these questions:

The products of their own vital activity arrest further development.

They are therefore both bane and antidote.

They consume, or are instrumental in eliminating or destroying some chemical compound necessary for their existence and multiplication. This is the exhaustion theory.

With the death of the bacteria the convalescence of the host begins. The animal cells regain their normal activity. The leucocytes digest the bacteria, or, as Sternberg expresses it: "The bacteria disappear from the circulation by the superior vitality of the white corpuscles, which, in their amœboid motions, may surround and assimilate the captured bacteria." Health is thus reëstablished.

At this stage of my subject several important inquiries present themselves, which I cannot, in justice, pass by:

Prominent among these is the question of immunity.

Although proper functional activity, or the presence of a chemical substance may doubtless decrease susceptibility to infectious diseases, it is evident that such activity does not necessarily confer immunity. At present but two avenues to such acquisition are known:

1. A natural attack.

2. The artificial induction of the disease in a mitigated form by vaccination or inoculation. It is, however, well to remember that immunity against subcutaneous inoculation is not necessarily synonymous with immunity against infection through mucous membranes especially of the alimentary canal. There are several theories advanced to explain this immunity. The exhaustion theory supposes that during the first attack the organism consumes some chemical compound or pabulum necessary for its growth and multiplication, and as soon as this substance becomes destroyed, the organism cannot further multiply, and that, owing to the subsequent absence of this same chemical compound, a new infection by the same organism is not possible—the individual is protected. The antidote theory contends that the organisms multiplying and growing in the body during the first attack, produce, directly or indirectly, some substance which acts as a sort of poison against a second immigration of the same organism. The tolerance theory assumes that, owing to the first attack, the cells of the tissues so change their nature that they become capable of

resisting the immigration of a new generation of the same organism, which property or peculiar qualities they transmit to their progeny through numerous generations. The known facts in regard to the hereditary transmissions of inherent or acquired properties, predispositions and insusceptibilities by the protoplasmic cells would indicate the transmission of such a tolerance. The transmission of acquired properties is shown in the budding and grafting of choice fruits and flowers, produced by cultivation upon the wild stock from which they originated. The acquired properties are transmitted indefinitely, and the same sap which on one twig nourishes a sour crab-apple, on another one of the same branch is elaborated into a delicious pippin. The tolerance to narcotics—opium and tobacco, and to corrosive poisons—arsenic, which results from a gradual increase of dose, are examples of acquired tolerance by cells to poisons, which at the outset would have been fatal in much smaller doses. The next most important consideration is that of environment, for upon the settlement of this point rests one of the foundation-stones of bacteriology.

While it would appear that both septic and pathogenic micro-organisms, when growing under certain extraordinary conditions are capable of suffering some modifications in their morphological and physiological behavior, it is nevertheless stoutly denied, on good grounds, that a septic organism, which cannot ordinarily grow in the living body and is associated with putrefactive changes in dead organic material, can be transformed into a pathogenic organism, which can grow in the living body and cause disease and *vice versa*. The three distinct micro-organisms mentioned as possessing such properties are: bacillus, subtilis, jequirity bacillus, and common mould aspergillus. The arguments advanced in favor of these all fall to the ground. As to the transformation of the bacillus subtilis into bacillus anthracis and *vice versa*, there are shown to be errors of observation and carelessness in experimentation. The jequirity bacillus turns out to be only an epiphenomenon, the pathogenic element resolving itself into the alkaloid jequiritin or ferment abrin. The specific aspergillus is only another species of the common mould. We are then asked how do we explain the production of pyæmia and septicæmia in rodents by the injection of putrid organic substances? The organisms connected with these morbid processes possess this pathogenic power *ab initio*, for although organisms may be morphologically similar, yet they may not be physiologically identical. What, then, must we conclude from

all this? There are some definite micro-organisms, although as a rule existing and growing in various substances of the outside world, have the power when finding access into the body of a suitable animal to grow and thrive here also, and to induce a definite pathological condition, but this power is inherent—they have it from the beginning. It cannot be acquired by any means. The leopard cannot change his spots, neither can the lion become a lamb. One had just as well try to transform the bulb of the common onion into the bulb of the poisonous colchicum.

Last, but not least, come attenuation of virus and antiseptics and germicides.

Attenuation of virus or diminution of virulence may be effected by the method of Pasteur of prolonged exposure of virus to contact with oxygen, by the method of Toussaint of subjecting it to a temperature for a short time a little less than is required for the complete destruction of vitality—both of these plans diminishing its reproductive activity, by the method of Chauveau of dilution or inoculating only a small number of active bacteria, which the system is capable of resisting, to a certain extent, by the method of Arloing, Cornevin and Thomas of intra-venous injection, as done in symptomatic anthrax by these experimenters and by the action of chemical reagents, as shown by Sternberg. Virus may also be modified by its passage through different series and species of animals. Also all temporary influences, which, if persistent, would destroy the bacteria, reduce permanently their power of reproduction and of harming the animal body. As for antiseptics and germicides, I can hardly do more than define the terms, for time forbids more than this passing notice of a subject upon which a whole essay could be written. The importance of the subject, therefore, bears no relation to the summary manner in which I shall be forced to dismiss it.

An antiseptic is an agent which is inimical to the growth of micro-organisms, either by changing the nutritive qualities of the necessary pabulum, or by arresting their multiplication or vital activity without necessarily destroying them.

A germicide is an agent that kills the organisms and is fatal to the life and existence of them. It destroys their vitality. The only true test of a germicide is its power to prevent the reproductive activity or multiplication of germs when transferred to suitable culture fluid under favorable conditions. Germicides are antisep-

tics, but an antiseptic is not necessarily a germicide. Disinfectants destroy or mask foul odors, and all disinfectants of established value are potent germicides. Therefore germicide and disinfectant are, to a certain extent, synonymous terms.

All experimenters agree in placing bichloride of mercury in the front rank as a germicide and antiseptic agent. Next to this Koch places bromine, iodine and chlorine. Carbolic acid, the most common antiseptic agent, is by no means as reliable as is usually supposed. Then come permanganate of potash and osmic acid. Chloride of zinc is very much overrated, and sulphurous acid is unreliable. Alcohol ranks low as a germicide, but is not without value as an antiseptic. Sulphate of iron has decided antiseptic qualities, but its use as a germicide would be a serious error. Sulphate of copper has the highest preventive power of the metallic salts. Iodoform had quite a rage, but has now gone somewhat out of fashion. The list is too long. I must drop it here and refer you for further details and information to special treatises. Thus far no antiseptic or germicide has been discovered which can be administered in sufficient strength to harm the germs or their more resistant spores without injuring the human system.

In conclusion, I must now briefly review the work of various investigators, who have labored most successfully to isolate certain specific parasites in certain diseases. The list of parasitic diseases is too long for me to do more than select a few from the number and classify the pathogenic micro-organisms connected therewith, giving the name also of the experimenter.

As an introduction to this most interesting topic, I would state that it requires but very few micro-organisms to cause disease—sometimes a single germ being sufficient, for such is their reproductive activity that a single germ multiplying by binary fission, under favorable conditions, would fill the ocean in five days.

While it is acknowledged that fermentation and putrefaction are due to the life-work of micro-organisms, it is also admitted that the relation of micro-organisms to the infectious diseases is very intimate, and is definitely proven to exist as regards some of the infectious maladies. In no instance, however, can it be said to have been satisfactorily proved that a particular infectious disease is due to a particular micro-organism, if any one of the following conditions remained unfulfilled, as pointed out by Koch :

1. It is absolutely necessary that the micro-organism in question is present, either in the blood or diseased tissues of man or of an animal suffering or dead from the disease.

2. It is necessary to take these micro-organisms from their nidus, from the blood or tissues, as the case may be, to cultivate them artificially in suitable media, i. e., outside the animal body, but by such methods as to exclude the accidental introduction into these media of other micro-organisms; to go on cultivating them from one cultivation to another for several successive generations, in order to obtain them free of every kind of matter derived from the animal body from which they have been taken in the first instance.

3. After having thus cultivated the micro-organisms for several successive generations, it is necessary to reintroduce them into the body of a healthy animal susceptible to the disease, and in this way to show that this animal becomes affected with the same disease as the one from which the organisms were originally derived.

4. Finally, it is necessary that in this so affected new animal the same micro-organisms should again be found.

A particular micro-organism may probably be the cause of a particular disease, maybe constantly associated with it and none other. Take trichinosis, for example. No one doubts that trichina stands in causal relation to this disease, yet no one has ever induced the disease by the introduction of the isolated worms. By analogy, if this is true of trichina spiralis, why is it not true of other micro-organisms, which, like trichina spiralis, can only claim constant association with a particular condition and absence in all others? Deductions, however, are not demonstrations, and that a particular micro-organism is really and unmistakably the cause of a particular disease can only be inferred with certainty, when every one of the above desiderata has been fully satisfied—when, as it were, a bacteria, well washed of all ambient organic living matter, has been isolated on the point of a needle and then introduced into a sterilized nutrient solution, cultivated for several successive generations, and then carefully inoculated with consequent results, which cannot be misinterpreted. Science is exact truth.

Anthrax.—Anthrax, also called splenic fever, charbon, or, in the localized form usually seen in man—malignant pustule, wool-sorters disease and milzbrand by the Germans, is the first and best

known instance of a disease definitely traced to the invasion of the body by a vegetable parasite, bacillus anthracis. Koch has induced the disease by the 115 successive culture upon solids. About this all controversy has ceased.

Pollender, Branel[1], Davaine and Bollinger recognized in the blood of animals, dead of anthrax, stiff, short and long rods, which Davaine called "Bacteridie du Charbon." They were identified by Cohn as bacilli, in morphological respects similar to bacillus subtilis, except that the bacilli anthracis are non-motile. Koch's absolute proof has been verified by Pasteur and many others.

Symptomatic Anthrax.—Symptomatic anthrax, also called emphysema infectiosum, quarter, evil and black leg, according to Arloing, Cornevin and Thomas, is characterized by the presence of a microbe, which has distinct morphological characters, and which differs essentially from the bacillus anthracis,. It is shorter and broader than the bacillus anthracis, is rounded at the extremities, is extremely mobile and is nearly always provided at one extremity with a refractive spore. Sometimes the rod is very long and has a spore at each extremity. Inoculations with the bacilli into the subcutaneous tissue of guinea-pigs, rabbits, sheep and calves always prove fatal, the same subcutaneous hemorrhagic effusions, characteristic of the disease, being produced.

Cerebro-Spinal Meningitis.—Leyden reports the finding of oval micrococci in great numbers, occurring both singly and in chains, in recent lymph, obtained by hypodermic syringe from beneath the pia mater of the spinal cord in a sporadic case of this disease. I can find no evidence of inoculation experiments being performed, and hence their presence is merely suggestive.

Cholera.—Epidemiologists explain the origin and extension of this disease by the existence of a germ, and the facts would seem to so indicate. To study this disease bacteriologically there are many difficulties to contend with. The human intestines are a hot-bed of micro-organisms and a multitude of harmless germs are constantly present in the discharges from the bowels of healthy persons and cholera patients as well. Besides, it is claimed that no one of the lower animals has yet been proved to be susceptible to the disease, which fact deprives us of the method of inoculation with pure cultures—the only true standard of cause and effect. The French, English and German governments sent commissioners to study this

disease in Egypt and India. In 1883 Dr. Koch, in his sixth cholera report, states that the bacilli which in their earlier reports the commission were unable to determine as strictly limited to cholera, were now accepted by them as holding a specific relationship. Their distinguishing characteristics are, briefly: "They are not quite straight, as are tne other forms of bacilli, but slightly curved, comma-like; this bending may be so marked as to be almost semicircular. From these curved stems, *s*-shaped figures, more or less elongated, slightly undulating, linear forms may be developed in pure cultivations, of which the first two segments and the last correspond to the form of the bacilli as found in cholera, and which, continually increasing in number remain attached to one another." Thus they closely resemble a spirillum. They have very active voluntary movements. They are found in every genuine case of cholera, whether in Egypt, India, Italy, France or Spain, and there is no positive, conclusive demonstrations of their presence in any other condition or disease. . They were observed in all the intestinal discharges and in the contents of the intestinal canal of cholera patients at post-mortem examinations and only in one instance in the various specimens of dirty water examined. Dr. Koch found them in the water of a tank that had produced cholera in several people who had partaken of it, and noticed that as soon as the bacilli disappeared from this water the cholera cases ceased. Dr. Koch, in discussing the relationship of these growths, states that the development of the supposed specific bacteria can only be favored by the cholera process, or that the bacillus is the cause of the disease, and that the disease is only induced when it has found its way into the intestine of man. If the first supposition is allowed, these bacilli are always present in health, which is stated as not the fact. Therefore he concludes that the growth of the bacteria cannot be due to the cholera process, and there is nothing left but the inference that it is itself the cause of the disease. Many other circumstances are emphasized as pointing to the same conclusion. They are limited to the organ which is the seat of the disease. They invade its tissues, which become markedly metamorphosed. In the earlier dejections of a cholera patient, so long as they are still feculent, the bacilli are few, but the subsequent watery, nearly odorless, characteristic dejections contain the bacilli in immense numbers, and coincidently all other bacteria disappear almost com-

pletely, so that in this stage of the disease an almost pure cultivation of the bacilli is obtained. Conversely, the comma-like bacilli decrease and disappear completely during convalescence. This general relationship also holds good as observed from post-mortem examinations. The great majority of observers in India and elsewhere give it as their unqualified opinion that cholera is infectious and may be transmitted, not only from individual to individual, but in a variety of ways to great distances. It is also well to remember that the bacteria of decomposition destroy the germs of cholera. Drs. Klein and Gibbes, of the English Cholera Commission, have identified the comma bacillus of Koch, which is a pathological feature of cholera cases. They have been unable to find that the microphyte is possessed of any pathogenic properties. In their preliminary report from Bombay and Calcutta the principal and most important points stated are :

1. That comma bacilli are not characteristic of cholera, since they are present in epidemic diarrhœa, dysentery and in intestinal catarrh, associated with phthisis.

2. That they have discovered a peculiar minute straight bacillus, which is of more constant occurrence in choleraic discharges than the comma variety.

3. That both of these micro-organisms behave precisely like other putrefactive organisms when cultivated artificially.

4. That no bacteria of any kind and no organisms of known form and character occur in the blood or any other tissue.

5. That finally all attempts made by the investigators to induce cholera in animals by either feeding or inoculation with these germs, have signally failed. Drs. Klein and Gibbes therefore contend that Koch's comma bacillus is neither the specific organism of Asiatic cholera, nor is it practically of any diagnostic importance. This is the severest blow the cholera comma bacillus has ever received. It remains to be seen, however, whether they have proved by cultures the morphological and physiological identity of dysenteric and other bacilli with those of cholera. A single positive inoculation experiment is far more valuable than all the negative evidence. It must also be proved by Klein and Gibbes that the inoculations of pure cultures by Koch and by Nicati and Rietsch did not, as claimed, produce genuine cholera. In a supplementary report later on Dr. Klein refers to the tank water, which was collected in a limited cholera dis-

trict in Calcutta. This is the same tank in which Koch found the comma bacilli, and on the presence of which in the water he largely based his theory. Dr. Klein admits the undoubted finding of the bacilli in the tank, but adds: "There has occurred during the whole of November, 1884, one single case of cholera, although about two hundred families use the water." Next comes the report that while Dr. E. Van Ermengen claims to have successfully inoculated dogs, rabbits and guinea pigs with the cultivated comma bacilli. Dr. Klein has had a bacterial dinner—swallowing liberal doses of comma bacilli in pure culture, and Dr. Bochefontaine, chief of Vulpian's laboratory, has himself taken a drachm of the intestinal discharge from a cholera patient in the form of pills—both of these gentlemen being unaffected thereby. Dr. Koch replies that all of the gentlemen, especially Lewis and Finkler and Prior, previous to this last cholera commission, who have questioned his results, have not shown sufficient care in the conduct of their own experiments. He sees no reason as yet to lose faith in the importance of his discovery, but on the contrary claims to have repeated with success in his own laboratory the Nicati and Rietsch experiments in regard to the artificial production of cholera in the lower animals. However, the *British Medical Journal* of January 31st, in giving a resume of Dr. Klein's report from India on the cholera bacillus states that Dr. Koch appears to recognize that he has not established the fact that the comma bacillus is the cause of cholera, and that he proposes to return to India to make further investigations at the earliest date that his duties in Berlin will permit. Opposed to this conclusion, however, is the result of a recent debate at the Royal Medical and Chirurgical Society of London between Drs. Klein and Gibbes opposing, and Dr. Watson Cheyne especially advocating the specific characters of Koch's comma bacilli of cholera. To record it briefly and pointedly it must be admitted that Koch's doctrine of their causative relations was not at all shaken. Thus this all-important and all-absorbing matter for bacteriologists to decide rests. We must either await further developments, or, in the midst of these conflicting opinions, decide the matter for ourselves according to our best judgment. An address delivered a few days ago in New Orleans before the American Medical Association by Dr. Henry D. Didama, of New York, relieves us, however, of this embarrassment. From it we gather that Dr. Klein at last admits that Koch's comma bacillus is indirectly the cause of cholera, and as *qui facit per alium facit per se,*

the formula is justified: No comma bacillus, no cholera. Such must be the conclusion after such a checkered experience, like that of its brother, the bacillus tuberculosis.

Cholera of Fowls.—Pasteur has furnished satisfactory experimental evidence that this infectious disease of the domestic fowl is due to a micro-coccus.

Diphtheria.—In the pseudo-membranes of this disease micro-organisms, especially micro-cocci, occur in great numbers. The micro-coccus diphtheriticus is the most constant, and was discovered by Buhl, Hueter and Oertel. Oertel was the first to describe them, and they have since been demonstrated by Von Rechlinghausen, Wassiloff, Waldeyer, Klebs, Eberth, Heiberg and others, in the most different organs and tissues. Drs. Wood and Formad have given them a very full description. Oertel and Eberth are very sure of their causal relations. Klebs claims to have produced diphtheria in animals by the inoculation of pure cultures. Drs. Wood and Formad inoculated pure cultures in a number of instances, resulting in the death of the animal, micro-cocci being abundant in all cases, thus giving support to the view that they are the infectious agents. Dr. H. O. Marcy also claims specific properties for them. There is some doubt thrown upon the accuracy of these experiments and the deductions therefrom. The results are not universally accepted, owing especially to a lack of precaution to prevent contamination of the cultures. On the contrary, Ewart claims a bacillus and Letzerich a fungus as the infectious agent. Finally, organisms morphologically similar, at least so far as the micro-cocci are concerned, being found in the mouth and fauces of healthy individuals and of patients suffering from other diseases in which the throat is involved, such as scarlet fever, etc., causes great opposition to the acceptance of the causal relation of the micro-coccus diphtheriticus. We must, however, remember that morphological similarity does not necessarily mean physiological identity.

Erysipelas.—Fehleisen has proven by cultivation and inoculation experiments upon men and animals that this disease is due to the micro-coccus erysipelatosus.

Milk Fever Epidemic of Aberdeen.—This disease is supposed by Dr. Ewart to be due to a bacillus resembling the anthrax bacillus. The evidence, though not conclusive, is strongly supportive of his view.

Salmon Disease, etc.—Prof. Huxley's salmon disease, or saprolegnia, and Dr. Ogles' disease among the perch of Lake Geneva are due to bacteria.

Glanders.—Schutz, Loeffler, Israel and Bouchardt have found in glanders a bacillus, cultivated it and by inoculation reproduced the disease. The bacillus resembles the bacillus tuberculosis in shape and size, but is readily stained by methyl-blue. It is found in the tubercles, which are characteristic of the disease.

Gonorrhœa.—In the pus from gonorrhœa Neisser detected a micro-coccus, which he called gono-coccus and for which he claimed specific characters and properties. Inoculations performed by him were not successful. Unfortunately for science, but not for animals, the lower animals are not susceptible to the contagion, even from inoculations of the most virulent pus. With that self-sacrifice, however, always characteristic of the medical student, in order that science might not suffer from lack of experimental material, six medical students were inoculated with the cultivated cocci by Bokair in Pesth and three were successfully infected. Some are ungenerous enough to suspect that the disease in these three might have been contracted in the usual way, as it was neglected to keep them in solitary confinement during the trial. Bockhart has also inoculated with a fourth culture a paralytic, producing a typical gonorrhœa. Dr. Sternberg claims the culture was not carried on to a sufficient degree, has gotten only negative results from his pure culture inoculations, and states that Neisser's gono-coccus is widely distributed, and is, in fact, the same as that which Pasteur has shown to cause the fermentation of urea. Thus far, therefore, it is not decisively established that this associated micro-organism is the veritable cause of the disease.

Hydrophobia.—Pasteur claims that the virus of this disease is associated in the saliva of rabid animals with various microbes. The specific organism, if any exists, has not yet been isolated.

Malaria.—Klebs and Tommasi Crudeli have discovered a bacillus which they call the bacillus malariæ, in the soil of the Roman campagna. Marchiafava and Cuboni find them in the blood of patients suffering from malaria. Inoculations of rabbits with the cultivated or original bacilli produced a febrile disorder, which Klebs and Tommasi Crudeli consider analogous to the human intermittent fever. Whether so or not we cannot say, as we do not know what

form malaria assumes in the rabbit. The experiments of Sternberg, made with bacilli material derived from soil from malarious American districts, do not support the view of Klebs and Tommasi Crudeli. The febrile disorder observed by him had nothing of the character of human intermittent fever, and besides could be produced by other bacilli than those of malarious soil. Therefore the experimental supports of the bacillus malariæ are as yet insufficient and not convincing, though quite probable. Laverau and Richard have described as the cause of malaria the oscalaria malariæ, of the same nature as the pigmented bodies, heretofore described as melanotic leucocytes. As yet there is nothing definite about this discovery.

Leprosy.—Hansen has described a bacillus lepræ associated with the leprous tubercles or nodules, not unlike the bacillus tuberculosis. Neisser confirmed Hansen's demonstrations. The bacilli have been successfully cultivated, but the inoculation experiments have given only negative results.

Koch's Malignant Œdema.—This affection (also called Pasteur's septicæmia) is due to a bacillus, of which an artificial culture has reproduced the disease. Charbon symptomatique, or rauschbrand of cattle, is believed by some to be the same disease. Brieger and Ehrlich have observed the disease in man from the subcutaneous injections of tincture of musk, contaminated with these bacilli.

Milk Sickness.—This is an infectious disease, which prevails in certain rurai districts in the United States. The experimental method has not yet proven its parasitic nature, though Dr. Phillips has detected a micro-zyme (spirillum) in the blood.

Measles.—Le Bel has discovered a vibrio in the urine and furfuraceous scales of the skin of measles patients, which he never met with in other diseases. Coze and Feltz, Klebs, Braidwood and Vacher find other organisms. Keating, confirmed by Formad, has recently reported the finding of micro-cocci in the blood of malignant measles and their absence in cases of mild type. In all cases the same micro-organism was found in the cutaneous lesions. I can find no evidence of successful inoculation experiments, and therefore we must place these organisms in the role of mere association at present.

Pleuro-Pneumonia.—Bruylants and Verriers claim the cultivation of the micro-coccus of this disease, and Pœls and Nolen the production of the disease by artificial cultures of the micro-cocci

derived from either human pneumonia or pleuro-pneumonia of cattle, which to them seemed morphologically identical. Protective inoculations are successfully practised in this disease.

Pneumonia.—Klebs, Eberth, Koch, Leyden and others, have found in acute crupous pneumonia in the affected lungs large numbers of micro-cocci, but Friedlander was the first to point out their constant occurrence, and called them pneumo-cocci. Friedlander and Frobenius have cultivated them, and claim to have sometimes obtained positive results and sometimes failed. Their positive results are not generally accepted, as some seem to think they have mistaken septicæmia for pneumonia. We must therefore for the present consider the pneumo-coccus as sub-judice.

Relapsing Fever.—Obermeier discovered in the blood of relapsing. fever patients, and never in any other disease, a spirillum, which is called spirochæte Obermeieri. It is uniformly present when the fever is at its acme, and very quickly disappears during defervescence. Koch and Carter have succeeded in the artificial cultivation of these germs, and although there are no reports of successful inoculations of isolated cultivated spirilla, yet their causative relations are pretty generally accepted, for inoculations of blood filled with them give positive results and blood of the same patient devoid of them negative results.

Scarlet Fever.—In this disease Coze and Feltz find micrococci in the blood, Klein in the throat ulcerations, and Pohl Pincus in the throat discharges and adherent to the scales of desquamating epidermis. They have not yet been subjected to Koch's experimentum crucis.

Swine Plague.—Pasteur, confirmed by Salmon and Neguin, demonstrates the presence of a micro-coccus in connection with this disease, and fails to find the causative relation of a bacillus reported by Klein. Both of these observers claim the success of pure culture inoculations. Klein contends that Pasteur's cultures were not pure, but were contaminated with or contained solely the germs of fowl cholera.

Syphilis.—Numerous investigators have observed micro-organisms in the different manifestations of this disease. Hallier, Klebs and Bergmann, also finally Birch-Hirschfeld, Morison and Aufrecht find micrococci or syphilicocci, while Salisbury sees a fungus-crypta syphilitica. None of the above have been conclusively proven to be the veritable germs of syphilis, for it has been impossible to inoculate the lower

animals with the disease, the only cases of reported exceptions being Klebs' monkey and Martineau and Hamsine's young pigs. Lustgarten, on the contrary, confirmed by Koch, has recently described a bacillus, characterized by color reaction, form and relative position, which he has cultivated and which he claims, upon very strong grounds, is the specific germ of syphilis.

Tuberculosis.—Koch, in the spring of 1882, after two years of careful cultivation and painstaking inoculation experimentation, announced the discovery of a bacillus, which is invariably present in tuberculosis material and invariably absent in other than tuberculosis morbid products. This bacillus, he claims, bears a causal relation to tuberculosis, and he has so satisfactorily established the role of this microbe by fulfilling the requirements of exact science that a large number of our best observers accept the conclusion of cause and effect as demonstrated. Others have, however, questioned the experimental proof offered by Koch, contending that tuberculosis could be produced in animals by inoculation not only with Koch's cultivated tubercular bacilli, but with a variety of organic products of non-tubercular origin, with inorganic materials, and even from the inhalation of inorganic particles. In answer to this it is replied that the positive results springing from experimentation of this kind amount to nothing, for the fact is lost sight of that animals during confinement readily develop tuberculosis, and in laboratories where experiments have been carried on and tuberculous animals confined, it is almost impossible to prevent the accidental infection of experimental animals with tuberculosis and the accidental contamination of the materials used for experimentation with tubercular bacilli or their spores. These objections bear with especial force on Dr. Formad, who, of all others in this country, has been most active in his opposition to Koch's assertion, and who, after a long discourse on the subject, embracing numerous experiments of his own, and including citations and deductions from a host of observers, finally concludes :

1. The bacillus of Koch is a valuable diagnostic sign of tubercular disease.

2. Nothing is proved by its discovery for the etiology of tuberculosis.

3. The two ready acceptance of the bacillus doctrine is not justifiable, and is likely to do more harm than good.

4. Neither phthisis nor any form of tuberculosis is contagious,

We acknowledge the correctness of his first conclusion, but as for the other three—for the reasons above given—for the lack of care and scientific accuracy of detail manifested—we must give them no consideration more than their mere mention.

Toussaint affirms that the tubercular deposits resulting from inoculation with non-tubercular material are not infectious, and that experimental pseudo-tuberculosis may be distinguished from tuberculosis proper by inoculation experiments, although the pathological anatomy of the two diseases is identical. Koch, on the other hand, does not admit that tuberculosis can be produced by material from which living tubercle bacilli or their spores are unquestionably excluded. Mr. Watson Cheyne and many others also affirm that material other than tuberculous does not produce tuberculosis. A great deal of this opposition, confusion and difference o opinion is due to a failure to agree upon a definition of tubercle and the confounding of tubercle with with tuberculosis. There is nothing characteristic in the individual nodule from the histological standpoint.

The bacillus tuberculosis is a slender rod of a width of one-half of that of its length, and from a quarter to a half the diameter of a blood-corpuscle in length—never exceeding the diameter of the blood-corpuscles. It presents certain distinctive characters as regards its behavior with staining reagents—with Ehrlich's modified method, which is the best—the bacilli retaining their red color, while all other bacteria are decolorized, the bacillus of leprosy, which has other points of differentiation, being the only exception. They are motionless—some with bright oval spores, some without—some smooth and homogeneous looking, others more of a beaded appearance, apparently being made up of a chain of oval elements. They are not infrequently covered or bent at an angle more or less acute, and not infrequently occur in pairs or in little groups. The cultivated bacilli grow slowly, requiring, according to Koch, at least a week before there is any evidence of multiplication. They are found in considerable numbers in tubercles of recent formation—more especially at the border of cheesy masses, but are not so abundant in old tubercles. They are abundant in the giant cells, and seem to possess a special relation to these cells. Koch found them invariably in miliary tubercles, in the so-called cheesy tuberculous product, in phthisical cavities, in tuberculous ulcers of the

intestine, in tubercles of the brain, in lymphatic glands, which had undergone cheesy degeneration, and in fungus granulations within joints. Others have found them in caseating scrofulous glands, in the air of hospital wards occupied by patients affected with phthisis, in the expired breath of phthisical patients, in the purulent discharge from a perineal fistula, in tuberculous affections of the kidneys, Rosentheim, Babes and Barrow in the urine in tuberculosis of the urinary organs, in expectorated blood, Weichselbaum in the blood of a man suffering from acute miliary tuberculosis, Lichtheim in the stools of intestinal tuberculosis, Fraenkel in the secretion of tuberculous laryngeal ulcerations, in the sputa from phthisical patients (though not invariably, yet not in any other sputa), where they occur both within and without the pus cells, and are especially numerous in the epithelioid cells. The scrofulous and tuberculous products are shown to be essentially identical by the presence of the bacillus in each. The bacillus being the criterion of tubercle, its presence demonstrates the identity of the two forms of tuberculous disease, which Virchow, Niemeyer and others regarded as distinct affections, i. e., miliary tubercles and the collections of cheesy matter constituting the anatomical characteristic of ordinary phthisis, the latter being considered a particular form of pneumonia, and not a tuberculous affection. Klein and others contend that the tubercle bacilli in humans and cattle are not identical, and that tubercles—young and adult—occur, where no bacilli are found, whereas in the same section cheesy tubercles may be present containing numbers of tubercle bacilli. Koch, on the contrary, not only considers the pearl disease of cattle (*perlsucht*) as identical with the tuberculous disease of man, but also a cheesy glandular disease of swine and a disease of fowls, the bacillus being present in all. He also declares that the bacilli are never absent in tuberculosis, but are present in all cases, even though they escape observation, and that when they are not found in certain tubercles, they are present as unstained spores or are invisible, because, being dead, they do not readily stain, or because, the process being at a standstill, they are absent. He also accounts for the failures of some investigators by the small number of experiments, and by lack of skill to stain, and ability to detect, the bacilli. Mr. Watson Cheyne and many others have confirmed Koch's assertions as regards the constant occurrence of the tubercle bacilli in the tubercles of

animals artificially tuberculized. Koch artificially cultivated these bacilli, and no matter how far removed from the original source—no matter whether derived from spontaneous or artificially induced tuberculosis, from human or bovine tuberculosis, they reproduced the disease when inoculated into suitable animals. This has been especially proven by the invariable success of inoculation experiments in the eye, which, according to all observers, is very rarely, if ever, in animals the seat of spontaneous tuberculosis.

Diagnosis.—The presence of these bacilli in the sputum is not only one of the earliest diagnostic signs of incipient phthisis, but one of the most constant of pulmonary phthisis and one of the most delicate tests of the disease. They are rarely absent from the sputum during the progress of phthisis. Their presence, therefore, must be regarded as a positive proof of the disease, but as they are not invariably present, their absence cannot be taken as positive evidence of the non-existence of the disease. If, however, after repeated examinations, they are found to be absent, we have strong presumptive evidence that there is no tuberculosis.

Prognosis.—Their abundance or paucity, after repeated examinations at short intervals in the same case, is a valuble prognostic sign, showing the activity or non-activity—the progressiveness or non-progressiveness of the tuberculous affection. The absence also of the bacilli, after repeated examinations in a well marked case of phthisis, may be taken as evidence that the tuberculous affection is ended, although more or less cough and expectoration continue as a result of the lesions incident to the tuberculous disease.

Contagiousness.—Not only can consumption be communicated by inoculation experiments and the consumption of tuberculous matter and the milk and flesh of tuberculous cattle, but also by the inhalation of the expired air of consumptives and through the medium of tuberculous sputa. M. Ch. Fernet contends, too, that primitive genital tuberculosis may probably be caused by direct contagion in sexual intercourse with a subject affected with genital tuberculosis, thereby producing secondary general infection. There are besides numerous experiments and cited cases, which prove its undoubted contagiousness in various ways. The most usual way of communication, however, is through the lungs, with the inspired air and through the agency of tuberculous sputa and breath.

Treatment.—As yet this discovery has not shed any light upon

the specific treatment of consumption, but has opened up inquiries in regard to its prophylaxis. What, then, are we to conclude from all of this? The answer is simple:

The best and greatest number of observers, some of whom were at first most violent in their opposition, have confirmed Koch's demonstrations of the parasitic nature of consumption, and have also declared that every tubercle comes from a bacillus, that Koch's bacillus tuberculosis is the *vera causa morbi*, and that tuberculosis is a contagious disease.

Typhoid Fever.—A short, thick bacillus, with spores and rounded ends, is found (post-mortem) in the liver, kidneys, spleen and lymph glands in the majority of cases of typhoid fever by Eberth, Koch and Friedlander, and larger bacilli in the vicinity of the intestinal ulcers and in the larynx and lungs by Klebs. Maragliano asserts the presence of both varieties in blood drawn by a hypodermic syringe from the spleen in fifteen cases intra vitam. It would seem, however, that he protests too much, for even post-mortem only Eberth's, never Klebs' bacilli, are found in the spleen. It is, however, doubtful whether these bacilli are necessarily and intimately connected with typhoid fever, as they are not constant, and only occur in localities where an immigration of putrefactive bacilli can easily take place from the bowels, which in typhoid fever contain innumerable numbers of microbes, and whose mucous membrane in this disease severely sloughs and becomes necrosed at Peyer's glands. Other observers have, however, found other micro-organisms, but their observations and experimentations have proven to be untrustworthy. Eberth has never found his bacillus in any other disease. Although facts point strongly to the parasitic origin of this disease, and although Koch is of the opinion that the bacillus of Eberth is the only one which has a specific relation to typhoid fever, yet the conclusion, of cause and effect cannot yet be accepted until demonstrated by cultivation and inoculation experiments. As yet such demonstration has not been conclusively offered.

Endocarditis Ulcerosa.—This affection, so frequent in the course of pyæmia, is characterized by the presence of micrococci, according to Heiberg, Maier, Eberth, Koster, Klebs, etc., but whether as only an accompaniment or as specific causes, has not yet been positively determined.

Variola.—Variola is supposed by Coze, Feltz and others to be

due to a characteristic bacterium, while Luginbuhl, Weigert and others attribute it to a micrococcus. Micrococcus is also found in vaccine lymph analogous in every point of view to those of variola. Cohn considers the micrococci of variola and vaccinia as two races of the same species. Positive inoculation experiments are still wanting, unless we accept the report of Dr. Queist, of Russia, who affirms the successful cultivation and inoculation of vaccine virus—the micrococci developing into bacilli, and these again into micrococci. Toussaint also claims a bacillus as the specific cause of sheep-pox, and Lagrolet, Jolyet and Delage—after cultivations and inoculations—affirm the parasitic origin of picote or variola in pigeons.

Whooping-Cough.—Burger has regularly found in the expectoration in this disease peculiar bacilli, which he has never found elsewhere. Letzerich's causal fungus is now discredited by every one. Poulet found peculiar bacteria in the sputum, Letzerich a bacterium, and Tschamer, of Gratz, a microphyte similar to the black mould of orange peel. These different organisms are supposed to be causative, but the only conclusion, as yet, to be drawn from the experiments yet performed, is that the *materies morbi*, be it bacillus or be it what it may, lives on the surface of the epithelium and does not get into the blood. It has not as yet been conclusively isolated.

Yellow Fever.—Dr. Sternberg, in his report of the Havana Yellow Fever Commission, states that he could find no micro-organisms which could be considered in a causal relation to this disease. Dr. Carmona, of Mexico, however, claims the discovery of a yellow fever germ in the blood, black vomit and urine of yellow fever patients. This fungus of many forms and many colors he calls peronospera lutea. Sternberg could find nothing corresponding to this organism in his examinations, and thinks there must have been accidental contamination of Carmona's specimens with some foreign atmospheric germs. Dr. Domingos Freire, of Brazil, finds in the blood of yellow fever patients a germ, which he considers specific, and calls cyptococcus xanthogenicus. He has performed various inoculations and experiments with materials containing this cryptococcus, with the result of reproducing the germ, and, as he supposes, the same disease. He does not, however, report the successful inoculation with a pure culture of his cryptococcus. Hine-

man, of Vera Cruz, has also failed to find in the blood before death Carmona's peronospera lutea and Freiere's cryptococcus xanthogenicus. M. Bouley recently, at the French Academy of Sciences in Paris, presented a note from Brazil on yellow fever, stating the microbe was a cryptococcus found in the blood, black vomit and dejections. A large number of inoculations with a mitigated virus appear to have been successfully made, and all of the persons (over five hundred) so treated escaped the disease. M. Bouley accepts the facts of the vaccination and its protective power, but doubts the characters of the microbe. Messrs. Mozly and Harrison have recently made experiments, which have served to throw discredit on the conclusions of Dr. Domingos Freire, of Rio Janeiro, in regard to his pathogenetic element of yellow fever. They contend he has mistaken septicæmia in the lower animals for yellow fever, which confirms the observations of the Havana Yellow Fever Commission of the National Board of Health. Sternberg states that no satisfactory evidence has yet been obtained that any one of the lower animals is susceptible to yellow fever, and therefore, as a test of the specific pathogenic power of a suspected organism, a pure culture must be administered to man himself. Thus the matter stands, and requires further careful examination.

Mumps.—Capitan, Chanin, Bouchard, Nether and Boinet have found a characteristic microbe in the blood and saliva of mumps patients. Boinet cultivated them, but his inoculations were not very successful.

Beri-beri.—Beri-beri, an obscure disease introduced from India into Brazil, has been studied by Dr. De Lærada, of South America, with the result of isolating, cultivating and successfully inoculating a specific bacillus. The bacilli are found in the blood, and especially in the muscles and spinal medulla.

Rinderpest.—Dr. Andrew Smart, of Edinburgh, published a description of micro-organisms, with drawings, found in the disease called rinderpest in 1865. This is claimed to be the first demonstration of bacteria in living tissues. Micrococci have also been found by Klebs in the lymphatic glands, and by Semmer in the lymphatic glands and blood. Their causal relation is not positively established.

Surgical Lesions.—The good effects observed in lesions where the access and multiplication of germs are prevented by continuity of

skin, cleanliness, antiseptical and germicidal applications—in other words, by aseptical (surgically clean) treatment and the demonstration of the important factorage of bacterial growths in the production of local and constitutional symptoms, when introduced, retained and permitted to multiply—in other words, when the wound is septic, open up a wide field for further research. The subject is too comprehensive to admit of more than the most cursory examination at the present time.

The evil effects of putrefactive bacteria, which are not identical, but distinct from septicæmic bacteria, have long been recognized, and in wounds where micrococci only are present, we have decomposition without odor, but the development of the bacilli is always accompanied with odor more or less fetid.

Septicæmia is a collective name for processes more or less similar, but etiologically distinct—at least in certain of the lower animals—any one of certain unorganized substances, any one of certain bacteria (at least three in the mouse) may induce characteristic symptoms. Septicæmia and aseptic fever as well may also be due to the absorption of different ferments, especially fibrin ferment, etc. Various forms of infectious septicæmia and pyæmia, identical in clinical and anatomical appearances with the same diseases in man, have been produced by different observers, Koch, Davaine, etc., in different animals, by the inoculation of putrid and other substances, and the results attributed, directly or indirectly, with more or less certainty, to different micro-organisms contained therein and reproduced in the animals so infected. Amongst the diseases so produced may be mentioned—

Septicæmia.—Koch's artificial production of this disease is accepted as due in mice to a bacillus, and in rabbits to bacteria, pure-culture inoculations having been successfully performed by Koch, Saffky and Loffler. Septicæmia has also been produced in rabbits by Sternberg by saliva inoculations, and the result proven by pure culture inoculations to be due to a micrococcus present in the normal mixed secretions of the mouth. This microoccus is found to correspond to Pasteur's microbe, which he at first thought was the cause of hydrophobia.

Pyæmia.—Koch has produced this disease in rabbits artificially, and finds a micro-coccus constantly associated. Semmer has confirmed his results. Although these micrococci have never been

artificially cultivated, there is hardly any doubt of their causative relations.

Spreading Abscess.—Koch has caused spreading abscess in rabbits by injecting putrid blood, and certain associated micrococci are considered the specific agents. Reasoning by analogy, septicæmia and pyæmia in the human being are supposed to be due to the vital activity of micro-organisms. There are strong arguments in favor of this supposition, although pure-culture inoculations have not yet been practised. The result of the observations and experiments of Ogston, however, has led him to conclude that septicæmia, pyæmia and septic pyæmia are one and the same disease, and that their sole and invariable cause is micrococcal poisoning. Experimental proof is also constantly accumulating to show that the inflammatory and other changes which ensue in wounds, often producing the most serious and dangerous consequences, are the results, with few exceptions, of the vital action of micro-organisms. Then, too, the proof that micrococci are the essential cause of suppuration, is rendered very strong by the results of inoculation, pus devoid of micro-organisms being inocuous, while that containing micrococci, even in minute doses of a minim or more, invariably occasions well-marked trouble. Ogston asserts that all suppuration is produced by microbes, except in cases of burns and blisters. None also are found in chronic abscesses. Ogston has therefore, by pure culture inoculation, established the role of the micrococcus of pus and acute abscesses. The most valuable of recent contributions upon the relation of micrococci to wounds, abscesses and septic processes is the report of Mr. Watson Cheyne to the Scientific Grants Committee, from which we gather—

1. There are various kinds of micrococci found in wounds treated aseptically, differing materially from each other in their effects on animals.

2. The effects of these micrococci on rabbits and men were not similar.

3. The kidney is apparently an important excretory organ for organisms.

4. Organisms not capable of growing in the blood may yet cause serious effects by growing in the excretory canals.

5. Suppuration is not always due to micrococci, but may be caused by mechanical or chemical irritants, such as croton oil, etc,

6. Micrococci are always present in acute abscesses and are probably their cause.

7. In some cases the micrococci are the primary cause of inflammation and suppuration, as in pyæmic abscesses; generally, however, they begin to act after inflammation has been previously induced by an injury, by the absorption of chemically irritating substances from wounds by cold, etc.

8. There are several different kinds of micrococci associated with suppuration.

9. Micrococci cause suppuration by the production of a chemically irritating substance, which, if applied to the tissues in a concentrated form, causes necrosis of the tissue, but, if more dilute, causes inflammation and suppuration.

10. There is no reason for denying the existence of antiseptic suppuration.

11. Tension may also cause suppuration, but it is perhaps most frequently aided by the growth of micrococci. It is also probable that the products of inflammation are themselves irritating and capable of exciting or keeping up inflammation.

12. The micro-organisms of septicæmia, of pyæmia and erysipelas are different from one another and from those of abscesses. In erysipelas the micrococci grow in the lymphatic spaces; in pyæmia they grow in the blood to form colonies and emboli; in septicæmia they may only grow locally, the symptoms being due to the absorption of their ptomaines; or, if they grow in the blood, they do not form colonies, and emboli. Septicæmia may also be due to other organisms besides micrococci.

13. There are no facts to support the view that it is the same micrococcus which under different conditions causes these various diseases.

Although this does not begin to exhaust the list of diseases which have been studied microscopically and experimentally with reference to the germ theory, yet enough has been recited above to give you a fair idea of the immense amount of careful work which has been bestowed upon this wide, and as yet greatly unknown field of etiological research and the vast amount of positive information and demonstration springing therefrom. I will not tax your patience with the recital of further details, for I fear I have already wearied you with the length of this paper. The germ theory rests upon a solid basis. Much, however, yet remains to be done, and if this essay shall stimu-

late any one in the pursuit of this all-absorbing and important branch of study, I should feel amply repaid for my feeble effort in its behalf. When a germ shall be isolated for every disease and an efficient germicide, which will prove destructive to each germ, and yet is harmless for the human system, or, in other words, which is not a homicide, shall be discovered, etiology and practical medicine will indeed be upon a substantial basis. Enough has already been done to encourage the belief that such will be the case in the not very remote future.

In conclusion, with thanks for your kind indulgence, I would say, in the language of another: "Although I have omitted much of real value, the time has passed when the critic of the germ theory of disease can content himself with captious remarks upon fashions in medicine, deluded followers of speculative theories, etc. As well might the geographer deny the existence of Africa because a topographical survey had not been made of its interior. All along the border line of the unknown are enthusiastic explorers engaged in the difficult and dangerous work of investigation with a heroism and determined fortitude of a Livingstone or a Stanley."

ADDRESS OF DR. J. W. JONES, PRESIDENT NORTH CAROLINA BOARD OF HEALTH.

(Read before the Conjoint Session, held on the 20th May, in Durham.)

The ancients, not only the Greeks and Romans, but the Barbarians, assigned the healing art to a divine origin.

In classical mythology health is represented in the person of Hygeine, the daughter of Æsculapius, and worshiped at Athens, Corinth, Argos and Rome.

In the works of art she is usually represented as supporting a serpent on a staff and giving him water from her own hand—a beautiful symbol of preventive medicine—peace and good will to men.

For ages the investigation of the laws of health and disease was prosecuted by the medical profession under the head of "Causes of Disease," but in the last fifty years it has entered upon the higher and broader sphere of prevention of disease and the prolongation of life under the head of preventive or State medicine, embracing a study of the laws of health and disease, and the conditions that tend to impair

health and bring on premature death, together with rules of perfect culture of body, mind and soul.

On the sixth day God created man in his own image and likeness. Male and female created He them. He put them in a garden in Eden, a paradise of physical pleasure, "where existence was a joy, where it was delightful to think, feel, see, hear and be; in which they were to discharge the duties of life, resist the temptations of evil, and go on in the journey of life, getting and giving good." But the happy pair yielded to temptation, and with rash hand in an evil hour our mother Eve

> "Forth reaching to the fruit she plucked, she ate;
> Earth felt the wound, and nature from her seat
> Sighing through all her works, gave signs of woe—
> That all was lost."

"The immortal took on mortality—the incorruptible frame corruption." He had died in his first estate. He was pathological in his new.

The moral demands of violated law were graciously met by the death and sufferings of Christ. The demands of the physical law could not be cancelled.

Nature is implacable, it knows no word of mercy. Displace but one of her smallest parts by spiritual emotion, mental or physical action, and all surrounding matter, extending to the limits of the universe, is disturbed. Unalterable, because no reaction restores disturbed matter to its former place or condition, and as enduring as matter, which is thought to be indestructible, and consequently, as far as we can comprehend, without end. But there are laws in mercy given that govern matter as unerringly out of place as those that govern it in place.

The meteor that shoots across our horizon moves with no less fixed laws than those that hold the North Star in its place.

It is the work of science to observe and study nature as it is presented to us in its varied states and combinations, and to disclose to us the laws imposed on it by the Creator.

Every organized body exhibits a series of phenomena called life—vitality—the essentials of which are the elements of its structure and a certain range of temperature. It is characterized by an origin, successive development and growth, the process of nutrition and assimi-

lation and the combustion of effete particles of structure—the disturbance of any one of which is disease, the cessation, death.

Life is a resultant of certain combinations of matter and forms, varying as to the matter, or group of matter, and the spirit and the law imposed by the Creator in the beginning.

If matter is indestructible and spirit eternal, death is only a change in the state or condition of matter or spirit making up the combination. In man it may be either a change in some of his material parts, making a partial death, or in all of them; or a separation of his spirit from his body, or an estrangement of the spirit from the Spirit of his God, who is a Spirit. In all of these cases the whole man suffers a corresponding change, his material body taking on new forms and functions, or falling into decay to again enter into combination fit for other uses and places—matter making her eternal rounds and the spirit returning to God who gave it.

All the phenomena of life indicate that it is one of continual progression:

First, of growth, then of decline, with manner of living, food, pleasure, pains and forms of disease corresponding to each of these periods. In early life the tissues are soft. As age comes on they harden, together with other changes in weight, height, appearance of skin and hair, the ability to endure and the susceptibility of the senses. All these changes occur in every case. The rapidity of the succession may be varied by many circumstances, some inherent and some exterior.

The natural division of the animal kingdom has been variously classified, each class presenting marked characteristics, as length and habits of life, distinctive features, shapes, sizes and color.

The fauna and flora show that while the animal and vegetable world have undergone many changes, the same law of proportions has prevailed in all the ages, before and after the flood, in that every part of them and period of their life bears a fixed proportion to each other part and time of life. The length of life of the mammalia, to which class man belongs, is estimated at about four or five times the time of his growth. Accordingly this law, which gives us an approximate starting point in the calculation of human life, is substantially the one adopted by both the physiologist and the naturalist.

The length of man's natural life is about 80 or 100 years. Most men die of disease, but few of old age. From his very nature man

ought to live 80 or 100 years. If so, then it is his duty to obey the laws of life and health, and any course of life that will induce disease and bring on premature death is unlawful and sinful. Health and long life are motives appealed to by the sacred writers. Solomon says: "The fear of the Lord prolongeth days, but the years of the wicked shall be shortened."

The Mosaic law everywhere enforces the laws of health. Christianity teaches us to honor God by honoring our bodies, and so keep them in this world, that in the world to come they may be bodies glorified, fit for glorified spirits. It enforces purity, cleanliness, temperance; and as soon as these find entrance into the squalid and vicious houses, they begin to refine and start the inmates in a new line, which manifests itself without in results at which the sanitarian is aiming.

To live through all the periods of life, to reach the highest point of organic energy, exhaust all man-forces, require rare physical, mental and moral combinations, with surroundings in perfect keeping with the organism, with the growth and habits in full and complete obedience to all the pertaining laws, and without any extraneous inferring causes. Healthy parentage, sound body, good food, pure air, clean water, the proper clothes to wear and houses to live in, together with "the love of God, as it is the sovereign remedy for all miseries, so in particular it effectually prevents the bodily disorders that the passions introduce by keeping the passions themselves within due bounds, and by the unspeakable joy and perfect calm serenity and tranquility it gives the mind, it becomes the most powerful of all the means of health and long life."

How to live long and healthy is embraced by M. Revielle, of Paris, in four general rules of living:

1. How to live.
2. Know thyself.
3. Arrange wisely the habits of life.
4. Combat disease in its beginning.

Canarvo, an Italian of noble birth, noted alike for his learning and age, in early youth wandered from his father's house and prostituted himself till life was despaired of by himself and his physician. At the age of 25 he came to himself, and by a properly regulated life lived to be 100 years old. He gives this one universal rule:

"Properly protected from excessive cold and heat, live soberly and temperately."

In this extraordinary case we learn how much abuse our frames can endure and to what a remarkable extent it can be restored by a properly ordered course of life.

What we have said refers mainly to individual life. Man cannot live alone; he lives with his fellow. With a common origin, he is heir to the common ills of the race—its pleasures, pains, weals and woes. The clean and unclean must drink the same water, the good and the bad must breathe the same air. So his condition in society is one of disorder and distress, and when left to individual effort for aid, well nigh helpless. The work for his relief must be one of the community, in which all the people are joined and the State aids.

So deeply is this felt by the good men of all shades of belief and creeds, that the efforts for his relief have become a common work. Religion and science are not twin, but one in their labors for softening the ills of life and preventing sickness and pain. Art, too, has joined her queenly sisters, with her apparatus of enlarged investigation and extended vision and appliances to make labor lighter, rest easier and life healthier, happier and longer.

The work has been divided into various fields of labor, that it may be done more thoroughly and by expert hands and thinkers. Our field of labor in this great work is that of "healing of the nations," and happily for our race, the intelligence and virtue of the present generation have been directed to sanitary reform. Medical associations and boards of health have been formed in all Christian countries.

To-day we are assembled in conjoint session of the North Carolina Medical Society and Board of Health, to consider the things best for the health of our people, whose mission it is to be a general physician and guardian to the people, whose duty it is to investigate intelligently, and to speak with authority on all the circumstances that in any way affect human life and the entire record of disease, their causes, concomitants and tendencies, both immediate and remote; on the physical condition of the State, as it relates to health and disease; on the drainage, winds, temperature, snow-fall, forest growth and water; to study the structure of society and the social relations of man and the duties growing out of these relations; to investigate the principles and laws affecting the welfare of man in society, the momentous question of his health, his wealth and his happiness. Our objects are broad, our purposes high enough so to appeal to the deepest sympathy and command, the fullest efforts and confidence of citizens, scientists, christians and states.

You will permit me to say that, while we do need better environment, better air, food, water and drainage, that is not man's greatest need. The greatest needs of man are moral and intellectual needs. The strongest forces for his elevation are his moral forces. They must be appealed to to arouse his dormant self-respect, deadened sensibilities and flagging energies. There must be begotten in him a hope for better things and an assurance that for his labors for a higher and better life there is a sure reward, in order to stir him to do for himself things that he alone can do.

> "The fault, dear Brutus, is not in our stars,
> But in ourselves, that we are underlings."

In England sanitary laws are best executed, and from her official reports we make extracts showing what sanitary laws are capable of in the prevention of disease and premature death.

The reform is in its infancy, and shows nearer what can be done than what has been done. Even now the plagues have ceased. Cholera, yellow fever, typhus fever and leprosy have come under the control of sanitary laws. Many diseases are prevented altogether. From the official report of Mr. Chadwish, the chief officer of the English Board of Health, it is shown that in ten years, from 1871 to 1881, after work of thirty years, there was a reduction, by sanitary regulation, in the death rate of England and Wales of 4½ per cent., from which it was estimated that about a quarter of a million of people were saved from death, and one-half of the whole population were saved from serious, though not fatal, sickness, with a money-saving of $3,000,000 in medical treatment and other expenses, not including burial expenses and loss of time. Three-fourths of this reduction in death rates are under the head of contagious diseases, which were controlled or prevented by isolation and three-eighths under the head of fevers, which were controlled or prevented by a better drainage, pure air and clean water.

In London the death rate among the wages classes show a gain of sixteen per thousand in the ventilated modern buildings, over thirty per thousand in the old, common dwellings. The same veteran official estimates that the neglect of sanitary laws costs England annually more than the interest on the British debt, which is £84,000,000.

In the military service the effects of the sanitary reform is better seen, because under strict army discipline.

The first army that was sent out to the Crimea was lost by sickness; "the one sent to take its place," said the war minister, "was saved by the sanitary commission that went with it, which in three months reduced the death rate of the Crimean army from a plague rate to the ordinary health rate.

In India the ordinary death rate was 69 per 1,000. From 1869 to 1878 it was reduced to 20.41, a gain of 48.59, or about 23.50 men's lives saved and 28,200 cases of sickness. In the home service it was reduced from 18 per 1,000 to 7.55 per 1,000, against 10.55.

In our own country, as well as in all others where sanitary law has been enforced, the same general results have been seen, and in many cases much more encouraging ones.

For the State Board of Health to do its full work prompt reports must be made by county superintendents. In order that county superintendents may do their full work, they must have reports from the physicians in their county, together with the co-operation of the civil officers.

The whole of society must become interested and co-operative—the Governor, the judges, the county, town and city authorities.

As this great reform has begun with the medical profession, so it must be carried on by it. We must instruct the people, awaken sentiment in its favor, and have the law executed. And, gentlemen, like all other reforms, it must have its sacrificial votaries.

REDUCTION AND TREATMENT OF DISLOCATION OF HIP JOINT.

By W. T. Ennett, M.D., Burgaw.

(Presented to the Medical Society of North Carolina at its Thirty-second Annual Meeting in Durham.)

This being the second case of dislocation of hip joint in my private practice, and one presenting some peculiarities of interest to me, I have determined to report it.

On the 22d of September (1884) Mr. James H. Moore, of Burgaw, fell from a scaffold at the roof of his house. Being in Wilmington at the time, I was telegraphed for. Arriving here about 9 or 10

o'clock, I immediately examined him as closely as possible without an anæsthetic. Thinking there was trouble at the hip joint, I at once chloroformed him and made a thorough examination. The acetabulum being of immense depth, and the head of femur being long, I readily completed my hasty examination by finding head of femur upwards and backwards upon dorsal surface of illium resting in fossa of bone. Hip deformed. The limb 1½ inches shorter than the sound limb. The knee a little above and in advance of the other. The thigh bent on the pelvis. All attempts at extending foot were unavailing. Any attempt to rotate or abduct caused the most intense pain.

Without assistance and proper implements, I provided a bandage, and with manipulation finally reduced the dislocation, and found the soft part very much injured. Considerable effusion of blood around the joint. I feared a long, stubborn case, which proved to be true; but time brought all things right with the exception of a little shortening. I did not like that, but examined hip and leg more than once, and found no deformity.

About the 1st of March (six months after the accident) I still found a little shortening. I consulted several physicians, among them our distinguished associates, Drs. Bahnson, of Winston, and Thomas F. Wood, of Wilmington. They both thought the tearing or wasting away of the cotoloid cartilidge caused by the effusion around the joint, and the patient remaining in bed so long after reduction, without any exercise at all, caused a contraction of muscles amounting to anchylosis, which would take sometime to overcome. It now seems to me such is the case, as I have within a few days examined it and measured it, and find a difference of about 3 inches within a month.

I visited him frequently, looking after his general health, as well as to his wound.

ADDENDA.

Since our meeting, on examination I find the limb only ½ inch shorter, gradually extending, and I predict in a few months the limb will be natural and the same length as before. Some cause of shortening, I think, is in the knee-joint, that being a little stiff, but is gradually disappearing. When the case is entirely cured I would like to give a more extended report, stating some facts of the case I have withheld purposely.

CODE OF MEDICAL ETHICS.

OF THE DUTIES OF PHYSICIANS TO THEIR PATIENTS, AND OF THE OBLIGATIONS OF PATIENTS TO THEIR PHYSICIANS.

ART. I.—*Duties of physicians to their patients.*

§ 1. A physician should not only be ever ready to obey the calls of the sick, but his mind ought also to be imbued with the greatness of his mission, and the responsibility he habitually incurs in its discharge. These obligations are the more deep and enduring because there is no tribunal other than his own conscience to adjudge penalties for carelessness or neglect. Physicians should, therefore, minister to the sick with due impressions of the importance of their office; reflecting that the ease, the health and the lives of those committed to their charge, depend on their skill, attention and fidelity. They should study, also, in their deportment, so to unite *tenderness* with *firmness*, and *condescension* with *authority*, as to inspire the minds of their patients with gratitude, respect and confidence.

§ 2. Every case committed to the charge of a physician should be treated with attention, steadiness and humanity. Reasonable indulgence should be granted to the mental imbecility and caprices of the sick. Secrecy and delicacy, when required by peculiar circumstances, should be strictly observed, and the familiar and confidential intercourse to which physicians are admitted in their professional visits, should be used with discretion, and with the most scrupulous regard to fidelity and honor. The obligation of secrecy extends beyond the period of professional services; none of the privacies of personal and domestic life, no infirmity of disposition or flaw of character observed during professional attendance should ever be divulged by the physician except when he is imperatively required to do so. The force and necessity of this obligation are indeed so great, that professional men have, under certain circumstances, been protected in their observance of secrecy by courts of justice.

§ 3. Frequent visits to the sick are in general requisite, since they enable the physician to arrive at a more perfect knowledge of the disease—to meet promptly every change which may occur, and also tend to preserve the confidence of the patient. But unnecessary visits are to be avoided, as they give useless anxiety to the patient, tend to diminish the authority of the physician, and render him liable to be suspected of interested motives.

§ 4. A physician should not be forward to make gloomy prognostications, because they savor of empiricism, by magnifying the importance of his services in the treatment or cure of the disease. But he should not fail, on proper occasions, to give to the friends of the patient timely notice of danger when it really occurs, and even to the patient himself, if absolutely necessary. This office, however, is so peculiarly alarming when executed by him, that it ought to be declined whenever it can be assigned to any other person of sufficient judgment and delicacy. For the physician should be the minister of hope and comfort to the sick; that, by such cordials to the drooping spirit, he may smooth the bed of death, revive expiring life, and counteract the depressing influence of those maladies which often disturb the tranquility of the most resigned in their last moments. The life of a sick person can be shortened, not only by the acts, but also by the words or the manner of a physician. It is, therefore, a sacred duty to guard himself carefully in this respect, and to avoid all things which have a tendency to discourage the patient and to depress his spirits.

§ 5. A physician ought not to abandon a patient because the case is thought incurable; for his attendance may continue to be highly useful to the patient, and comforting to the relatives around him, even in the last period of a fatal malady, by alleviating pain and other symptoms, and by soothing mental anguish. To decline attendance, under such circumstances, would be sacrificing to fanciful delicacy and mistaken liberality, that moral duty which is independent of, and far superior to, all pecuniary consideration.

§ 6. Consultations should be promoted in difficult or protracted cases, as they give rise to confidence, energy and more enlarged views in practice.

§ 7. The opportunity which a physician not unfrequently enjoys of promoting and strengthening the good resolutions of his patients, suffering under the consequences of vicious conduct, ought never to

be neglected. His counsels, or even remonstrances, will give satisfaction, not offense, if they be proffered with politeness, and evince a genuine love of virtue, accompanied by a sincere interest in the welfare of the person to whom they are addressed.

ART. II.—*Obligations of patients to their physicians.*

§ 1. The members of the medical profession, upon whom is enjoined the performance of so many important and arduous duties toward the community, and who are required to make so many sacrifices of comfort, ease and health for the welfare of those who avail themselves of their services, certainly have a right to expect and require that their patients should entertain a just sense of the duties which they owe to their medical attendants.

§ 2. The first duty of a patient is to select as his medical adviser one who has received a regular professional education. In no trade or occupation do mankind rely on the skill of an untaught artist; and in medicine, confessedly the most difficult and intricate of the sciences, the world ought not to suppose that knowledge is intuitive.

§ 3. Patients should prefer a physician whose habits of life are regular, and who is not devoted to company, pleasure, or to any pursuit incompatible with his professional obligations. A patient should also confide the care of himself and family, as much as possible, to one physician: for a medical man who has become acquainted with the peculiarities of constitution, habits and predispositions of those he attends, is more likely to be successful in his treatment than one who does not possess that knowledge.

A patient who has thus selected his physician should always apply for advice in what may appear to him trivial cases, for the most fatal results often supervene on the slightest accidents. It is of still more importance that he should apply for assistance in the forming stage of violent diseases; it is to a neglect of this precept that medicine owes much of the uncertainty and imperfection with which it has been reproached.

§ 4. Patients should faithfully and unreservedly communicate to their physician the supposed cause of their disease. This is the more important, as many diseases of a mental origin simulate those depending on external causes, and yet are only to be cured by ministering to the mind diseased. A patient should never be afraid of thus making his physician his friend and adviser; he should always

bear in mind that a medical man is under the strongest obligations of secrecy. Even the female sex should never allow feelings of shame or delicacy to prevent their disclosing the seat, symptoms and causes of complaints peculiar to them. However commendable a modest reserve may be in the common occurrences of life, its strict observance in medicine is often attended with the most serious consequences, and a patient may sink under a painful and loathsome disease, which might have been readily prevented had timely intimation been given to the physician.

§ 5. A patient should never weary his physician with a tedious detail of events or matters not appertaining to his disease. Even as relates to his actual symptoms, he will convey much more real information by giving clear answers to interrogatories, than by the most minute account of his own framing. Neither should he obtrude upon his physician the details of his business nor the history of his family concerns.

§ 6. The obedience of a patient to the prescriptions of his physician should be prompt and implicit. He should never permit his own crude opinions as to their fitness to influence his attention to them. A failure in one particular may render an otherwise judicious treatment dangerous, and even fatal. This remark is equally applicable to diet, drink and exercise. As patients become convalescent, they are very apt to suppose that the rules prescribed for them may be disregarded, and the consequence, but too often, is a relapse. Patients should never allow themselves to be persuaded to take any medicine whatever, that may be recommended to them by the self-constituted doctors and doctresses who are so frequently met with, and who pretend to possess infallible remedies for the cure of every disease. However simple some of their prescriptions may appear to be, it often happens that they are productive of much mischief, and in all cases they are injurious, by contravening the plan of treatment adopted by the physician.

§ 7. A patient should, if possible, avoid even the *friendly visits of a physician* who is not attending to him—and when he does receive them, he should never converse on the subject of his disease, as an observation may be made, without any intention of interference, which may destroy his confidence in the course he is pursuing, and induce him to neglect the directions prescribed to him. A patient should never send for a consulting physician with-

out the express consent of his own medical attendant. It is of great importance that physicians should act in concert; for, although their modes of treatment may be attended with equal success when applied singly, yet conjointly they are very likely to be productive of disastrous results.

§ 8. When a patient wishes to dismiss his physician, justice and common courtesy require that he should declare his reasons for so doing.

§ 9. Patients should always, when practicable, send for their physician in the morning, before his usual hour of going out; for, by being early aware of the visits he has to pay during the day, the physician is able to apportion his time in such a manner as to prevent an interference of engagements. Patients should also avoid calling on their medical adviser unnecessarily during the hours devoted to meals or sleep. They should always be in readiness to receive the visits of their physician, as the detention of a few minutes is often of serious inconvenience to him.

§ 10. A patient should, after his recovery, entertain a just and endearing sense of the value of the services rendered him by his physician; for these are of such a character that no mere pecuniary acknowledgment can repay or cancel them.

OF THE DUTIES OF PHYSICIANS TO EACH OTHER AND TO THE PROFESSION AT LARGE.

Art. I.—*Duties for the support of professional character.*

§ 1. Every individual, on entering the profession, as he becomes thereby entitled to all its privileges and immunities, incurs an obligation to exert his best abilities to maintain its dignity and honor, to exalt its standing and to extend the bounds of its usefulness. He should therefore observe strictly such laws as are instituted for the government of its members; should avoid all contumelious and sarcastic remarks relative to the faculty as a body; and while, by unwearied diligence, he resorts to every honorable means of enriching the science, he should entertain a due respect for his seniors, who have, by their labors, brought it to the elevated condition in which he finds it.

§ 2. It is not in accord with the interests of the public or the honor of the profession that any physician or medical teacher

should examine or sign diplomas or certificates of proficiency for, or otherwise be specially concerned with, the graduation of persons whom they have good reason to believe intend to support and practice any exclusive and irregular system of medicine.

§ 3. There is no profession, from the members of which greater purity of character and a higher standard of moral excellence are required than the medical, and to attain such eminence is a duty every physician owes alike to his profession and to his patients. It is due to the latter, as without it he cannot command their respect and confidence, and to both, because no scientific attainments can compensate for the want of correct moral principles. It is also incumbent upon the faculty to be temperate in all things, for the practice of physic requires the unremitting exercise of a clear and vigorous understanding; and, on emergencies, for which no professional man should be unprepared, a steady hand, an acute eye and an unclouded head may be essential to the well-being, and even to the life, of a fellow-creature.

§ 4. It is derogatory to the dignity of the profession to resort to public advertisements, or private cards, or handbills, inviting the attention of individuals affected with particular diseases—publicly offering advice and medicine to the poor gratis, or promising radical cures; or to publish cases and operations in the daily prints, or suffer such publications to be made; to invite laymen to be present at operations, to boast of cures and remedies, to adduce certificates of skill and success, or to perform any other similar acts. These are the ordinary practices of empirics, and are highly reprehensible in a regular physician.

§ 5. Equally derogatory to professional character is it for a physician to hold a patent for any surgical instrument or medicine; or to dispense a secret *nostrum*, whether it be the composition or exclusive property of himself or of others. For, if such nostrum be of real efficacy, any concealment regarding it is inconsistent with beneficence and professional liberality; and if mystery alone give it value and importance, such craft implies either disgraceful ignorance or fraudulent avarice. It is also reprehensible for physicians to give certificates attesting the efficacy of patent or secret medicines, or in any way to promote the use of them.

ART. II.—*Professional services of physicians to each other.*

§ 1. All practitioners of medicine, their wives and their children, while under paternal care, are entitled to the gratuitous services of any one or more of the faculty residing near them, whose assistance may be desired. A physician afflicted with disease is usually an incompetent judge of his own case; and the natural anxiety and solicitude which he experiences at the sickness of a wife, a child, or any one who, by the ties of consanguinity, is rendered peculiarly dear to him, tend to obscure his judgment, and produce timidity and irresolution in his practice. Under such circumstances medical men are peculiarly dependent upon each other, and kind offices and professional aid should always be cheerfully and gratuitously afforded. Visits ought not, however, to be obtruded officiously; as such unasked civility may give rise to embarrassment, or interfere with that choice on which confidence depends. But, if a distant member of the faculty, whose circumstances are affluent, request attendance, and an honorarium be offered, it should not be declined; for no pecuniary obligation ought to be imposed, which the party receiving it would wish not to incur.

ART. III.—*Of the duties of physicians as respects vicarious offices.*

§ 1. The affairs of life, the pursuit of health, and the various accidents and contingencies to which a medical man is peculiarly exposed, sometimes require him temporarily to withdraw from his duties to his patients, and to request some of his professional brethren to officiate for him. Compliance with this request is an act of courtesy, which should always be performed with the utmost consideration for the interest and character of the family physician, and when exercised for a short period, all the pecuniary obligations for such service should be awarded to him. But if a member of the profession neglect his business in quest of pleasure and amusement, he cannot be considered as entitled to the advantages of the frequent and long-continued exercise of this fraternal courtesy, without awarding to the physician who officiates the fees arising from the discharge of his professional duties.

§ 2. In obstetrical and important surgical cases, which give rise to unusual fatigue, anxiety and responsibility, it is just that the fees accruing therefrom should be awarded to the physician who officiates.

ART. IV.—*Of the duties of physicians in regard to consultations.*

§ 1. A regular medical education furnishes the only presumptive evidence of professional abilities and acquirements, and ought to be the only acknowledged right of an individual to the exercise and honors of his profession. Nevertheless, as in consultations the good of the patient is the sole object in view, and this is often dependent on personal confidence, no intelligent regular practitioner, who has a license to practice from some medical board of known and acknowledged respectability, recognized by this Association, and who is in good moral and professional standing in the place in which he resides, should be fastidiously excluded from fellowship, or his aid refused in consultation, when it is requested by the patient. But no one can be considered as a regular practitioner or a fit associate in consultation, whose practice is based on an exclusive dogma, to the rejection of the accumulated experience of the profession, and of the aids actually furnished by anatomy, physiology, pathology and organic chemistry.

§ 2. In consultations no rivalship or jealousy should be indulged; candor, probity and all due respect should be exercised toward the physician having charge of the case.

§ 3. In consultations the attending physician should be the first to propose the necessary questions to the sick, after which the consulting physician should have the opportunity to make such further inquiries of the patient as may be necessary to satisfy him of the true character of the case. Both physicians should then retire to a private place for deliberation; and the one first in attendance should communicate the directions agreed upon to the patient or his friends, as well as any opinions which it may be thought proper to express. But no statement or discussion of it should take place before the patient or his friends, except in the presence of all the faculty attending, and by their common consent; and no *opinions* or *prognostications* should be delivered which are not the result of previous deliberation and concurrence.

§ 4. In consultations the physician in attendance should deliver his opinion first, and when there are several consulting, they should deliver their opinions in the order in which they have been called in. No decision, however, should restrain the attending physician from making such variations in the mode of treatment as any subsequent

unexpected change in the character of the case may demand. But such variation, and the reasons for it, ought to be carefully detailed at the next meeting in consultation. The same privilege belongs also to the consulting physician if he is sent for in an emergency, when the regular attendant is out of the way, and similar explanations must be made by him at the next consultation.

§ 5. The utmost punctuality should be observed in the visits of physicians when they are to hold consultations together, and this is generally practicable, for society has been considerate enough to allow the plea of a professional engagement to take precedence of all others, and to be an ample reason for the relinquishment of any present occupation. But as professional engagements may sometimes interfere, and delay one of the parties, the physician who first arrives should wait for his associate a reasonable period, after which the consultation should be considered as postponed to a new appointment. If it be the attending physician who is present, he will, of course, see the patient and prescribe; but if it be the consulting one, he should retire, except in case of emergency, or when he has been called from a considerable distance, in which latter case he may examine the patient, and give his opinion in *writing*, and *under seal*, to be delivered to his associate.

§ 6. In consultations theoretical discussions should be avoided, as occasioning perplexity and loss of time. For there may be much diversity of opinion concerning speculative points, with perfect agreement in those modes of practice which are founded, not on hypothesis, but on experience and observation.

§ 7. All discussions in consultation should be held as secret and confidential. Neither by words nor manner should any of the parties to a consultation assert or insinuate that any part of the treatment pursued did not receive his assent. The responsibility must be equally divided between the medical attendants—they must equally share the credit of success as well as the blame of failure.

§ 8. Should an irreconcilable diversity of opinion occur when several physicians are called upon to consult together, the opinion of the majority should be considered as decisive; but if the numbers be equal on each side, then the decision should rest with the attending physician. It may, moreover, sometimes happen that two physicians cannot agree in their views of the nature of a case, and the treatment to be pursued. This is a circumstance much to be

deplored, and should always be avoided, if possible, by mutual concessions, as far as they can be justified by a conscientious regard for the dictates of judgment. But in the event of its occurrence a third physician should, if practicable, be called to act as umpire; and, if circumstances prevent the adoption of this course, it must be left to the patient to select the physician in whom he is most willing to confide. But, as every physician relies upon the rectitude of his judgment, he should, when left in the minority, politely and consistently retire from any further deliberation in the consultation, or participation in the management of the case.

§ 9. As circumstances sometimes occur to render a *special consultation* desirable, when the continued attendance of two physicians might be objectionable to the patient, the member of the faculty whose assistance is required in such cases should sedulously guard against all future unsolicited attendance. As such consultations require an extraordinary portion of both time and attention, at least a double honorarium may be reasonably expected.

§ 10. A physician who is called upon to consult should observe the most honorable and scrupulous regard for the character and standing of the practitioner in attendance; the practice of the latter, if necessary, should be justified, as far as it can be, consistently with a conscientious regard for truth, and no hint or insinuation should be ihrown out which could impair the confidence reposed in him, or affect his reputation. The consulting physician should also carefully refrain from any of those extraordinary attentions or assiduities which are too often practiced by the dishonest for the base purpose of gaining applause, or ingratiating themselves into the favor of families and individuals.

Art. V.—*Duties of physicians in cases of interference.*

§ 1. Medicine is a liberal professsion, and those admitted into its ranks should found their expectations of practice upon the extent of their qualifications, not on intrigue or artifice.

§ 2. A physician, in his intercourse with a patient under the care of another practitioner, should observe the strictest caution and reserve. No meddling inquiries should be made—no disingenuous hints given relative to the nature and treatment of his disorder; nor any course of conduct pursued that may directly or indirectly tend to diminish the trust reposed in the physician employed.

§ 3. The same circumspection and reserve should be observed when, from motives of business or friendship, a physician is prompted to visit an individual who is under the direction of another practitioner. Indeed, such visits should be avoided, except under peculiar circumstances; and when they are made, no particular inquiries should be instituted relative to the nature of the disease, or the remedies employed, but the topics of conversation should be as foreign to the case as circumstances will admit.

§ 4. A physician ought not to take charge of or prescribe for a patient who has recently been under the care of another member of the faculty in the same illness, except in cases of sudden emergency, or in consultation with the physician previously in attendance, or when the latter has relinquished the case, or been regularly notified that his services are no longer desired. Under such circumstances, no unjust and illiberal insinuations should be thrown out in relation to the conduct or practice previously pursued, which should be justified as far as candor and regard for truth and probity will permit; for it often happens that patients become dissatisfied when they do not experience immediate relief, and, as many diseases are annually protracted, the want of success, in the first stage of treatment, affords no evidence of a lack of professional knowledge and skill.

§ 5. When a physician is called to an urgent case, because the family attendant is not at hand, he ought, unless his assistance in consultation be desired, to resign the care of the patient to the latter immediately on his arrival.

§ 6. It often happens in cases of sudden illness, or of recent accidents and injuries, owing to the alarm and anxiety of friends, that a number of physicians are simultaneously sent for. Under these circumstances, courtesy should assign the patient to the first who arrives, who should select from those present any additional assistance that he may deem necessary. In all such cases, however, the practitioner who officiates should request the family physician, if there be one, to be called, and, unless his further attendance be requested, should resign the case to the latter on his arrival.

§ 7. When a physician is called to the patient of another practitioner, in consequence of the sickness or absence of the latter, he ought, on the return or recovery of the regular attendant, and with the consent of the patient, to surrender the case.

[The expression, "patient of another practitioner," is understood to mean a patient who may have been under the charge of another practitioner at the time of the attack of sickness, or departure from home of the latter, or who may have called for his attendance during his absence or sickness, or in any other manner given it to be understood that he regarded the said physician as his regular medical attendant.]

§ 8. A physician, when visiting a sick person in the country, may be desired to see a neighboring patient who is under the regular direction of another physician, in consequence of some sudden change or aggravation of symptoms. The conduct to be pursued on such an occasion is to give advice adapted to present circumstances; to interfere no further than is absolutely necessary with the general plan of treatment; to assume no future direction unless it be expressly desired; and, in this last case, to request an immediate consultation with the practitioner previously employed.

§ 9. A wealthy physician should not give advice *gratis* to the affluent; because his doing so is an injury to his professional brethren. The office of a physician can never be supported as an exclusively beneficent one; and it is defrauding, in some degree, the common funds for its support, when fees are dispensed with which might justly be claimed.

§ 10. When a physician who has been engaged to attend a case of midwifery is absent, and another is sent for, if delivery is accomplished during the attendance of the latter, he is entitled to the fee, but should resign the patient to the practitioner first engaged.

Art. VI—*Of differences between physicians.*

§ 1. Diversity of opinion and opposition of interest may, in the medical as in other professions, sometimes occasion controversy and even contention. Whenever such cases unfortunately occur, and cannot be immediately terminated, they should be referred to the arbitration of a sufficient number of physicians or a *court-medical.*

§ 2. As a peculiar reserve must be maintained by physicians towards the public, in regard to professional matters, and as there exist numerous points in medical ethics and etiquette through which the feelings of medical men may be painfully assailed in their intercourse with each other, and which cannot be understood or appreciated by general society, neither the subject-matter of such differences nor the

adjudication of the arbitrators should be made public, as publicity in a case of this nature may be personally injurious to the individuals concerned, and can hardly fail to bring discredit on the faculty.

ART. VII.—*Of pecuniary acknowledgments.*

§ 1. Some general rules should be adopted by the faculty, in every town or district, relative to *pecuniary acknowledgments* from their patients; and it should be deemed a point of honor to adhere to these rules with as much uniformity as varying circumstances will admit.

OF THE DUTIES OF THE PROFESSION TO THE PUBLIC, AND OF THE OBLIGATIONS OF THE PUBLIC TO THE PROFESSION.

ART. I.—*Duties of the profession to the public.*

§ 1. As good citizens, it is the duty of physicians to be ever vigilant for the welfare of the community, and to bear their part in sustaining its institutions and burdens; they should also be ever ready to give counsel to the public in relation to matters especially appertaining to their profession, as on subjects of medical police. public hygiene and legal medicine. It is their province to enlighten the public in regard to quarantine regulations; the location, arrangement and dietaries of hospitals, asylums, schools, prisons and similar institutions; in relation to the medical police of towns, as drainage, ventilation, etc.; and in regard to measures for the prevention of epidemic and contagious diseases; and when pestilence prevails, it is their duty to face the danger, and to continue their labors for the alleviation of the suffering, even at the jeopardy of their own lives.

§ 2. Medical men should also be always ready, when called on by the legally constituted authorities, to enlighten coroners' inquests and courts of justice on subjects strictly medical—such as involve questions relating to sanity, legitimacy, murder by poisons or othe violent means, and in regard to the various other subjects embraced in the science of Medical Jurisprudence. But in these cases, and especially where they are required to make a *post-mortem* examination, it is just, in consequence of the time, labor and skill required, and the responsibility and risk they incur, that the public should award them a proper honorarium.

§ 3. There is no profession by the members of which eleemosynary services are more liberally dispensed than the medical, but justice

requires that some limits should be placed to the performance of such good offices. Poverty, professional brotherhood and certain of the public duties referred to in the first section of this article, should always be recognized as presenting valid claims for gratuitous services; but neither institutions endowed by the public or by rich individuals, societies for mutual benefit, for the insurance of lives or for analogous purposes, nor any profession or occupation, can be admitted to possess such privilege. Nor can it be justly expected of physicians to furnish certificates of inability to serve on juries, to perform militia duty, or to testify to the state of health of persons wishing to insure their lives, obtain pensions, or the like, without a pecuniary acknowledgment. But to individuals in indigent circumstances such professional services should always be cheerfully and freely accorded.

§ 4. It is the duty of physicians, who are frequent witnesses of the enormities committed by quackery, and the injury to health, and even destruction of life caused by the use of quack medicines, to enlighten the public on these subjects, to expose the injuries sustained by the unwary from the devices and pretensions of artful empirics and impostors. Physicians ought to use all the influence which they may possess, as professors in colleges of Pharmacy, and by exercising their option in regard to the shops to which their prescriptions shall be sent, to discourage druggists and apothecaries from vending quack or secret medicines, or from being in any way engaged in their manufacture and sale.

Art. II.—*Obligations of the public to physicians.*

§ 1. The benefits accruing to the public, directly and indirectly, from the active and unwearied beneficence of the profession, are so numerous and important, that physicians are justly entitled to the utmost consideration and respect from the community. The public ought likewise to entertain a just appreciation of medical qualifications; to make a proper discrimination between true science and the assumptions of ignorance and empiricism; to afford every encouragement and facility for the acquisition of medical education—and no longer to allow the statute-books to exhibit the anomaly of exacting knowledge from physicians, under a liability to heavy penalties, and of making them obnoxious to punishment for resorting to the only means of obtaining it.

A RESOLUTION TO DEFINE CERTAIN ARTICLES OF THE CODE OF ETHICS.

WHEREAS, Persistent misrepresentations have been, and still are, being made concerning certain provisions of the Code of Ethics of this Association, by which many in the community, and some even in the ranks of the profession, are led to believe those provisions exclude persons from professional recognition simply because of differences of opinion of doctrines; therefore be it

Resolved, That clause 1, article 4, in the "National Code of Medical Ethics," is not interpreted as excluding from professional fellowship, on the ground of differences in doctrine or belief, those who, in other respects, are entitled to be members of the regular medical profession. Neither is there any other article or clause of the said Code of Ethics that interferes with the exercise of the most perfect liberty of individual opinion and practice.

Resolved, That it constitutes a voluntary disconnection or withdrawal from the medical profession proper to assume a name indicating to the public a sectarian or exclusive system of practice, or to belong to an association or party antagonistic to the general medical profession.

Resolved, That there is no provision in the "National Code of Medical Ethics" in anywise inconsistent with the broadest dictates of humanity, and that the article of the Code which relates to consultations cannot be correctly interpreted as interdicting, under any circumstances, the rendering of professional services, whenever there is a pressing or immediate need of them. On the contrary, to promptly meet the emergencies occasioned by disease or accident, and to give a helping hand to the distressed without unnecessary delay, is a duty fully enjoined on every member of the profession, both by the letter and the spirit of the entire Code. But no such emergencies or circumstances can make it necessary or proper to enter into formal professional consultations with those who have voluntarily disconnected themselves from the regular medical profession in the manner indicated by the preceding resolution.

CONSTITUTION OF THE MEDICAL SOCIETY OF THE STATE OF NORTH CAROLINA, AS AMENDED AT ITS TWENTY-SECOND ANNUAL MEETING, MAY, 1880.

Article I.—*Title of the Society.*

The title of the Society shall be "The Medical Society of the State of North Carolina."

Article II.—*The Objects of the Society.*

The objects of the Society shall be the advancement of medical knowledge, the elevation of professional character and the promotion of all measures of a professional nature that are adapted to the relief of suffering humanity, and to improve the health and protect the lives of the community.

Article III.—*Members of the Society.*

Sec. 1. This Society shall consist of permanent members, delegates, associates and honorary members.

Sec. 2. The permanent members of the Society shall consist of such regular physicians as shall have complied with the law of the State embraced in an "Act to incorporate the Medical Society of the State of North Carolina, and for the establishment of a Medical Board of Examiners," and shall receive two-thirds of the votes of those present.

Sec. 3. The delegates shall receive their appointment from the county societies, and from the counties that have no society a delegate may be appointed by the profession of the county; *provided*, they have as many as two regular practitioners within the county.

Sec. 4. Every delegate before admission to a seat in the Society, shall produce a certificate of delegation, signed by the President or Secretary of the county society or association, and shall sign the Constitution and pay the assessment.

Sec. 5. Each delegate shall hold his appointment for one year, or until another is appointed to succeed him.

Sec. 6. Every member of a county society shall be an associate member of the State Medical Society.

Sec. 7. An associate member shall be entitled to all the privileges of attending upon the deliberations of the Society, and take part in its discussions, but shall not be allowed to vote, nor shall he be eligible to office.

Article IV.—*Of the Officers.*

Sec. 1. The officers of this Society shall be a President, four Vice-Presidents, a Corresponding and Recording Secretary, and Treasurer.

Sec. 2. The members of the Nominating Committee shall be elected one from each Congressional District by the members present on the night of the second day, and in the absence of any member from any district, the vacancy shall be filled by the President.

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Sec. 3. None but permanent members and delegates shall be eligible to the office of President, Vice-President, Secretary and Treasurer.

Sec. 4. There shall be annually appointed an Executive Committee of three members, whose duties shall be to investigate the professional status of members of this Society. Their duty shall comprehend the reports of any violation of the Code of Medical Ethics, or any irregularity either of members or auxiliary Societies, and also to make such recommendations for the improvement of the profession of the State as they may deem proper.

Article V.—*Duties of the Officers.*

Sec. 1. The President shall preside at the meeting, preserve order, and perform such other duties as custom and parliamentary usage may require. He shall not be eligible for two terms in succession.

Sec. 2. The Vice-Presidents, when called upon, shall assist the President in the performance of his duties, and during the absence, and at the request of the President, one of them shall officiate in his place. They shall not be eligible for two terms in succession.

Sec. 4. The Corresponding and Recording Secretary shall conduct the correspondence and perform such other duties as usually appertain to that office ; and shall keep correct minutes of the proceedings of the Society, and shall fairly transcribe the same, when approved, in a book to be kept for the purpose. He shall have charge of all

papers belonging to the Society, other than those appertaining to the Treasurer, and shall give due notice of the annual meetings, and shall receive such compensation as the Society may from year to year determine.

Sec. 4. The Treasurer shall receive all moneys belonging to the Society and give receipts for all sums paid into his hands to the individual paying the same, and disburse them as directed, preserving vouchers for the same. He shall annually present a statement of the finances to the Society, which shall be referred to a committee of three delegates to be audited.

Article VI.—*Of the County Societies.*

Sec. 1.—The members of the profession in any county of this State, who form themselves into a county society, may become auxiliary to this Society; *provided*, that all the regular practitioners in the county have been invited to unite in its organization; *and provided*, that the Constitution and laws of such Society do not contravene those of the State Society.

Sec. 2. No one shall be admitted as a member of the county society unless he is either a graduate in medicine of some respectable medical school, or has been a practitioner for at least five years, and who, moreover, is in good moral and professional standing in the place where he resides, and is a regular practitioner.

Sec. 3. Any physician who shall secure a patent for a remedy, or instrument of surgery, or who shall hereafter give a certificate in favor of a patent remedy, or instrument, shall be deemed disqualified from becoming a member of a county society.

Sec. 4. As soon as the county society is organized the Secretary thereof shall transmit to the Corresponding and Recording Secretary one copy of the Constitution and By-Laws, with the names of their officers and members. The Society shall be authorized to elect one delegate to the State Society for every five of its members.

Sec. 5. Every county society shall enforce the observance by its members of the Code of Ethics adopted by the State Society, and they shall be authorized to censure or expel any member convicted of violating its provisions.

Sec. 6. A member of the county society who is censured or expelled, shall have a right to appeal to the State Society.

Sec. 7. A member who is expelled shall be debarred from the

rights of consultation, or the privileges of professional intercourse with any member of the State Society.

Sec. 8. The county societies shall report annually to the State Society a list of their officers and members, any new rules which they may adopt, and such other matters as they may deem interesting.

Sec. 9. The county society shall hold at least two meetings in each year.

Sec. 10. If any county medical society shall neglect to perform all such acts as may be required to be done by the laws of the State Society, or shall be guilty of conduct derogatory to the honor of the laws of the State Society, such county society shall, during such delinquency, have their privileges as a portion of the State Society suspended, and their delegates shall not be entitled to a seat in the State Society.

Article VII.—*Meeting of the Society.*

The Society shall hold an annual meeting. The time and place of meeting shall be determined for each succeeding year by a vote of the Society.

Article VIII.—*Of the Funds of the Society.*

Sec. 1. Funds for defraying the current expenses of the Society shall be raised by annual assessments on permanent members and county or district societies, in connection with the State Society.

Sec. 2. Each permanent member, after being duly elected, and having signed the Constitution, shall pay the sum of five dollars as an admission fee, and be subject to the annual assessment of the Society, with the exception of the assessment for the year of his admission.

Sec. 3. Should a permanent member fail to pay the assessments two successive years, after having been notified by the Treasurer of his delinquencies, his name shall be stricken from the list of members. And he shall not be reinstated to the rights and privileges of the Society unless by a two-thirds vote of all the members present and full compliance with all the requirements of Section 2 of the same article.

Sec. 4. Each county or district society shall pay, through the

hands of its delegate or delegates, the annual assessment ; and in case such county or district society is not represented, it shall be the duty of the Treasurer to forward an account of said assessment to the Secretary or Treasurer of the county or district society for collection.

Sec. 5. Should a county or district society, in connection with this Society, fail to pay the annual assessment two successive years, after having been notified by the Treasurer of its delinquencies, its right of representation in this Society shall be suspended until said assessments are paid.

Article IX.—*Code of Ethics.*

This Society adopts as a part of its regulations that part of the Code of Ethics of the American Medical Association which it has published by its order.

Article X.—*Provisions for Amendments.*

Every proposal for altering or amending this Constitution shall be made in writing ; and if such alteration or amendment receives the unanimous vote of the members present, it shall be adopted ; but if objections be made, the alteration or amendment shall lie over until the next annual meeting, when, if it receives the vote of two-thirds of the voters present, it shall be adopted.

ALPHABETICAL LIST OF MEMBERS OF THE MEDICAL SOCIETY OF THE STATE OF NORTH CAROLINA.

(The mark* opposite a name indicates attendance at the meeting in Durham May, 1885.)

———o———

Dr. Abernethy, W L, Hickory.
" *Adams, C E, Gastonia.
" Adams, M R, Cool Springs.
" Adams, R H, Gastonia.
" *Alexander, A L, Cowan's F'd
" Alexander, L L, Topsail Sound
" Alexander, S J, Randalsburg.
" Alford, R M, Greensborough.
" Allison, John A, Statesville.
" Alston, B P, Warrenton.
" *Alston, Willis, Littleton.
" Anders W W K, Gravel Hill.
" *Anderson, C F, Mocksville.
" Anderson, E A, Wilmington.
" *Anderson, J, Calahan.
" Anderson, J H, Tarborough
" *Anderson, Thos E, Statesville
" *Archey, L M, Concord.
" Ashe, E F, Wadesborough.
" Attmore, Geo S, Newberne.
" *Bahnson, H T, Salem.
" *Baird, J H, Briggsville.
" Baker, J H, Tarborough.
" *Baker, Julian M, Tarborough.
" Balsley, T E, Greensborough.
" Barrier, P A, Mt Pleasant.
" Barringer, Paul B, Charlotte.
" Barron, C R, Toisnot.
" Bass, H T, Tarborough.
" Battle, A J, Earpsborough.
" Battle, K P, Jr, Chapel Hill.
" *Battle, L W, Durham.
" Baynes, R S, Bushy Fork.
" *Beall, W P, Greensborough.
" *Beckwith, Jno B, Smithfield.
" *Bell, J S, Matthews.
" *Bellamy, W J H, Wilmington
" *Benton, J H, Newton Grove.
" *Best, W L, Johnson's Mills.
" *Bolton, Mayland, Rich Square
" *Bobbitt, Wm H, Raleigh.
" *Bodie, N P, Palmyra.
" Booker, E Nelson, Leachburgh
" *Booth, Patrick, Knap of Reeds
" *Booth, S D, Oxford.
" Bradshaw, Wm G, Lexington.
" *Bradsher, C E, Hurdle's Mills
" *Bradsher, C M, Hurdle's Mills
" *Brank, Joe, Weaverville.
" Braswell, J C, Whitakers.
Dr. Brodie, Walter, Whitakers.
" Brown, Frank W, Greenville.
" *Brown, Zeno, Greenville.
" Brownson, W C, New Canaan
" Broyles, F, Asheville.
" Bryant, C G, Rich Square.
" *Budd, A V, Egypt.
" Bulluck, D W, Whitakers.
" Bunn, M O, (removed.)
" Burbank, T S, Williamston.
" Burroughs, Jas A, Asheville.
" Cable, W A Brick Church.
" Cain, D J, Asheville.
" *Caldwell, D G, Charlotte.
" *Carr, A G, Durham.
" *Carr, John B, Old Sparta.
" Chappell, Leroy, Forrestville.
" Cheatham, W T, Henderson.
" Cheek, D A, Greensboro.
" Clark, H J, Hamilton.
" Clingman, J J, Huntsville.
" *Cobb, Wm H H, Goldsborough
" *Coleman, J J, Hurdle's Mills.
" Collins, J A, Enfield.
" *Cook, J H, Durham.
" Cooke, W J, Louisburg.
" *Cope, Geo C, Heiglig's Mills.
" *Cotten, A Theo, Morrisville.
" Covington, J M, Rockingham.
" Cowan, R L, Rowan Mills.
" Cox, Joseph J, New Garden.
" Craigmiles, J C, Marshall.
" *Crisp, W B, Olive Grove.
" Crowell, E, Lincolnton.
" *Crowell, T A, Monroe.
" *Dalton, D M, Winston
" De Armand, H K, Pineville.
" Dillard, Richard, Jr, Edenton.
" *Dixon, A P, Queensdale.
" *Dorsett, ——, Bethany.
" Drake, John A, Battleborough
" Duffy, Chas Jr, Newberne.
" *Duffy, Francis, Newberne.
" *Dunn, Jas B, Raleigh.
" Eagles, C W, Sparta.
" Ector, J G, Friendship.
" Edwards, J C, Hookerton.
" Edwards, Wm, Castalia.
" *Ellis, R B, Raleigh.
" *Emmett, John M, Hope Mills

Dr. Ennett, Geo N, Saunders' Store
" *Ennett, W T, Burgaw.
" Evans, S B, Statesville.
" Exum, W P, Goldsborough.
" *Faison, H W, Faison's Depot.
" *Faison, J Wellingt'n, MtOlive
" Faison, J H, Faison.
" *Faison, John M, Faison.
" *Faison, W W, Goldsborough.
" Ferguson, H B, Halifax.
" Ferguson, K M, Citra Fla.
" Fink, John, Concord.
" Fletcher, G W, Shufordville.
" Fletcher, M H, Shufordville.
" Flowers, S B, Mt Olive.
" *Foote, Geo A, Warrenton.
" Foster, E S, Louisburg.
" *Fox, M F, Greensborough.
" Freeman, W G, Murfreesboro.
" Frontis, D B, Lexington.
" Fuller, F T, Raleigh.
" Futrell, M H, Woodland.
" Gaither, J R, Salisbury.
" Galloway, W C, Snow Hill.
" Garrett, F M, All H'g Springs.
" Gidney, J C, Shelby.
" Gilkey, J K, Marion.
" Gilmer, S J, Concord.
" Glenn, C M, Greensborough.
" Glenn, R W, Greensborough.
" Graham, G W W, Charlotte.
" *Graham, Joseph, Charlotte.
" Gray, R F, Winston.
" Green, Isaac E, Warrenton.
" Gregory, Oscar L, Halifax.
" *Griffin, J S, Lewiston.
" Griffith, Jas E, Clemmonsville
" Grimes, R J, Robersonville.
" *Grimsley, J L, Snow Hill.
" *Grissom, Eugene, Raleigh.
" Gunn, J L, Yanceyville.
" *Gunter, J B, Durham.
" *Hadley, J M, La Grange.
" Haigh, T D, Fayetteville.
" Hall, J B, Scotland Neck.
" Hall, J K, Greensborough.
" *Hardie, P R, Durham.
" *Harding, T R, Huntsville.
" Hardy, John G, Asheville.
" Hargrove, R H, Robersonville.
" Harrell, J F, Whiteville.
" Harris, F R, Henderson.
" *Harris, T W, Chapel Hill.
" Hauser, R A, Bethania.
" *Hayes, J M, Wilton.
" Haywood, E B, Raleigh.
" *Haywood, F J, Raleigh.
" *Haywood, Hubert, Raleigh.
" *Haywood, R B, Raleigh.

Dr. Henderson, F M, Concord.
" Henderson, J L, Mt Pleasant.
" *Herndon, W T, Morrissville.
" Herron, A M, Charlotte.
" *Hicks, W N, Fish Dam.
" *Hill, A A, Lexington.
" *Hill, L H, Germantown.
" Hill, M W, Statesville.
" *Hill, Thomas, Goldsborough.
" *Hilliard, W D, Asheville.
" Hilliard, W L, Asheville.
" Hines, P E, Raleigh.
" *Hodges, J A, Fayetteville.
" Hodges, Jas M, Mt Olive.
" Hollingsworth, Jas, Mt Airy.
" Hollingsworth, W R, Mt Airy.
" Holmes, Allman, Clinton.
" Hornaday, E H, Willow Green
" Houston, O P, Mt Ulla.
" Hudson, W L, Hawley's Store
" *Hughes, F W, Newberne.
" Hughes, J B, Newberne.
" Hunt, L G, Huntsville.
" Hunter, L W, Charloote.
" Hunter, M C, Huntersville.
" Huntley, A B, Wadesborough.
" Hussey, L, Warsaw.
" Irwin, John, Villa Franca.
" *Irwin, J R, Alexandriana.
" Ivy, H T Fayetteville.
" James, F C, Bethel.
" Johnson, W G, Farmington.
" Jones, A S, Warrenton.
" Jones, Beverly, Bethania.
" *Jones, J B, Charlotte.
" *Jones, J W, Tarborough.
" Jones, S R, Charlotte.
" *Jones, Thos J, Lansing.
" *Jones, W J, Goldsborough.
" *Jordan, Thos M, Hillsborough
" *Keever, A P, Keeversville.
" *Kenedy. W P, Warsaw.
" Killebrew, C S, Tarborough.
" King, Ed DeLa R, Goldsboro.
" King, Joel G, Warrenton.
" Kirby, Geo L, Goldsboro.
" *Kirkpatrick, J M, La Grange
" Knight, C W, Tarborough.
" Knight, J L, Tarborough.
" Knox, A W, Raleigh.
" Lackey, R S, Amity Hill.
" Land, H G, Poplar Branch.
" Lane, W W, Wilmington.
" *Lee, A M, Clinton.
" *Leggett, K, Palmyra.
" *Lewis, R F, Lumberton.
" *Lewis, R H, Raleigh.
" Lilly, H W, Fayettevilie.
" Lilly, W H, Concord.

Dr. *Litz, A W, Tyro Shops.
" Lloyd, Geo S, Tarborough.
" *Long, B L. Hamilton.
" *Long, Geo W, Graham.
" Long, J F, Washington.
" *Long, Jno W, Randlemann's
" Love, Wm J, Wilmington.
" *Lucas, D, Enfield.
" *Lucas, Geo F, Point Caswell.
" *Lyle, J M, Franklin.
" *Lyle, S H, Franklin.
" Lyon, D Stuart, High Point.
" Macumber, J L, Wilmington.
" *McClelland, J R, Mooresville.
" McCombs, J P, Charlotte.
" McCorkle, J R, Mooresville.
" McDonald, A D, Wilmington.
" McDonald, John, Washington.
" McDowell, W O, Scotland N.
" *McDuffie, W C, Fayetteville.
" *McGee, J W, Raleigh.
" *McJohnston, N, Durham.
" *McKay, J F, Averysboro.
" McKee, James, Raleigh.
" McKinnon, W H, Fayetteville
" McLean, J A, McLeansville.
" McLean, N M, Shoe Heel.
" *McLeod, Gilbert, Morven.
" McLinden, W J, Wadesboro.
" *McMillain, B F, Plainview.
" McMillain, J D, Lumberton.
" *McMillain, J L, Red Springs
" McNider, V St Clair, Jackson.
" McNeill, D B, Shallotte.
" McNeill, J W, Fayetteville.
" McRae, Jas A, Fayetteville.
" McSwain, T C, Fayetteville.
" Macon, P J, Warrenton.
" *Mallett, W P, Chapel Hill.
" Manning, J M, Pittsboro.
" Matthews, G E, Ringwood.
" *Maynard, A A, Clayton.
" Meisenheimer, C A, Pioneer M
" Meisenheimer, T F, Morven.
" Mercer, J R, Tarborough.
" Mercer, W P, Toisnot.
" Miller, J F, Goldsborough.
" Miller, J M, Charlotte.
" Montague, S J, Winston.
" *Montgomery, S L, Mason.
" Moore, C E, Battleborough.
" Moore, Thos J, Richmond, Va.
" Moose, J W, Mt Pleasant.
" Murdock, W A, Mt Ulla.
" *Murphy, P L, Morganton.
" *Murphy, W C, So. Washingt'n
" Murray, H P, Wallace.
" *Nicholson, J L, Richlands.
" *Nicholson, J T, Bath.
Dr. *Nicholson, S T, Washington.
" *Noble, R J, Selma.
" Norcom, H S. Washington, D C
" Norcop, Percy T, Asheville.
" *O'Brien, John, Halifax.
" *O'Hagan, Chas J, Greenville.
" *O'Kelly, J M, Williams' Mills
" Pair, A D, Eagle Rock.
" *Pate, W T, Laurel Hill.
" Patterson, D N, Mangum.
" *Payne, R L, Lexington.
" *Payne, R L, Jr., Lexington.
" Peacock, C C, Wilson.
" Pender, W D (D) Robersonville
" *Perry, Jas C, Newbegun.
" *Perry, M P, Macon.
" Peteway, P S, Enfield.
" Pharr, T F, Concord.
" *Pharr, W J N, Query's.
" Phillips, M D, Dalton.
" *Picot, L J, Littleton.
" *Pierce, A B, Weldon.
" Pittman, N J, Tarborough.
" Pollock, John A, Kinston.
" *Pool, C M, Salisbury.
" Porter, Elisha, Rocky Point.
" *Porter, Robert J, Youngsville
" Potter, F W, Wilmington.
" *Powell, J H, Goldsborough.
" Powell, T C, Rocky Mount.
" *Powell, W E, Castoria.
" *Powers, J B, Wake For. Coll.
" Powers, K J, Camera.
" Powers, L M, Plymouth.
" Prince, D M, Laurinburg.
" *Pritchard, Wm B, Faison.
" *Pugh, E W, Windsor.
" *Purefoy, G W, Asheville.
" Ramsay, J G, Rowan Mills.
" *Reagan, J A, Weaverville.
" *Reagan, W L, Ivy.
" *Reinhart, D B, Thomasville.
" Richards, P J, Eagle Rock.
" Richardson, J M, Lincolnton.
" *Ritter, F W, Shiloh.
" *Roberson, A B, Chapel Hill.
" Robeson, R R, Kyle's Landi'g.
" Roberts, J D, Goldsborough.
" Robertson, T B, Neuse.
" Robinson, G L, Smithfield.
" Robinson, O P, Arkansas.
" Rogers, S H, Raleigh.
" *Rountree, F M, Kinston.
" Royster, T S, Williamsboro.
" Royster, W J, Raleigh.
" *Ruffin, John K, Wilson.
" *Sasser, L L, Smithfield.
" *Satchwell, S S, Rocky Point.
" Savage, M T, Scotland Neck.

Dr. Scales, Jeff, Staten Island, N Y
" Scarborough, J H, Trenton.
" Shenck, D R, Valley Town.
" Schonwald, J T, Wilmington.
" Seawell, V N, Wallace.
" Sexton, J A, Raleigh.
" Shaffner, J T, Salem.
" Shepard, J C, Scott's Hill.
" *Shubrick, J T, Winton.
" Siewers, N S, Salem.
" Sikes, G T. Grissom.
" Sills, David N, Castalia.
" Sills, R A, Nashville.
" *Sledge, J T, Greenville.
" *Sloan, Henry, Lisbon.
" *Small, W P, Washington.
" *Smallwood, John P, Lewiston
" Smith, Geo A, Princeton.
" *Smith, G G, Concord.
" Smith, Julian A, Wilmington.
" Smith, John W, Reidsville.
" *Sorrell, L P, Kelvin Grove.
" Speed, E T, Tarborough.
" *Spencer, B T, Chalk Level.
" Speight, R H, Tarborough.
" Spruill, W T, Youngsville.
" *Stansill, J McQ, Rockingham
" Staton, L L, Tarborough.
" Stevens, Jas A, Clinton.
" Stevenson, S W, Mooresville.
" Stith, L A, Wilson.
" Street, N H, Pollocksville.
" *Strickland, J T, Thomasville.
" Sugg, J B, Tarborough.
" Summerell, E M, Salisbury.
" *Summerell, J J Salisbury.
" Swindell, C A, Greenville.
" *Tayloe, D T Washington.
" *Taylor. Isaac M Chapel Hill.
" *Thomas, Geo G, Wilmington.
" *Thomas, R W, Thomasville.
" Thomas, Will. Geo, Wilmingt'n
" Thorpe, E J, Rocky Mount.
" Tomlinson, J M, Bush Hill.
Dr. Trantham, H T, Salisbury.
" Tucker, J H, Henderson.
" Tull, Henry, Kinston.
" *Turlington, W E, Elevation.
" Vick, Josh W, Selma.
" *Vicker, Thos S, Durham.
" Walls, S P, Cary.
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" Woods, H B, Rowan Mills.
" *Woods, S B, Bell's Ferry.
" Woolen, C W, Randlemann's.
" Woolen, W A, Randlemann's.
" *York, N D, Morrisville.
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